

THE MILLING WORLD

AND

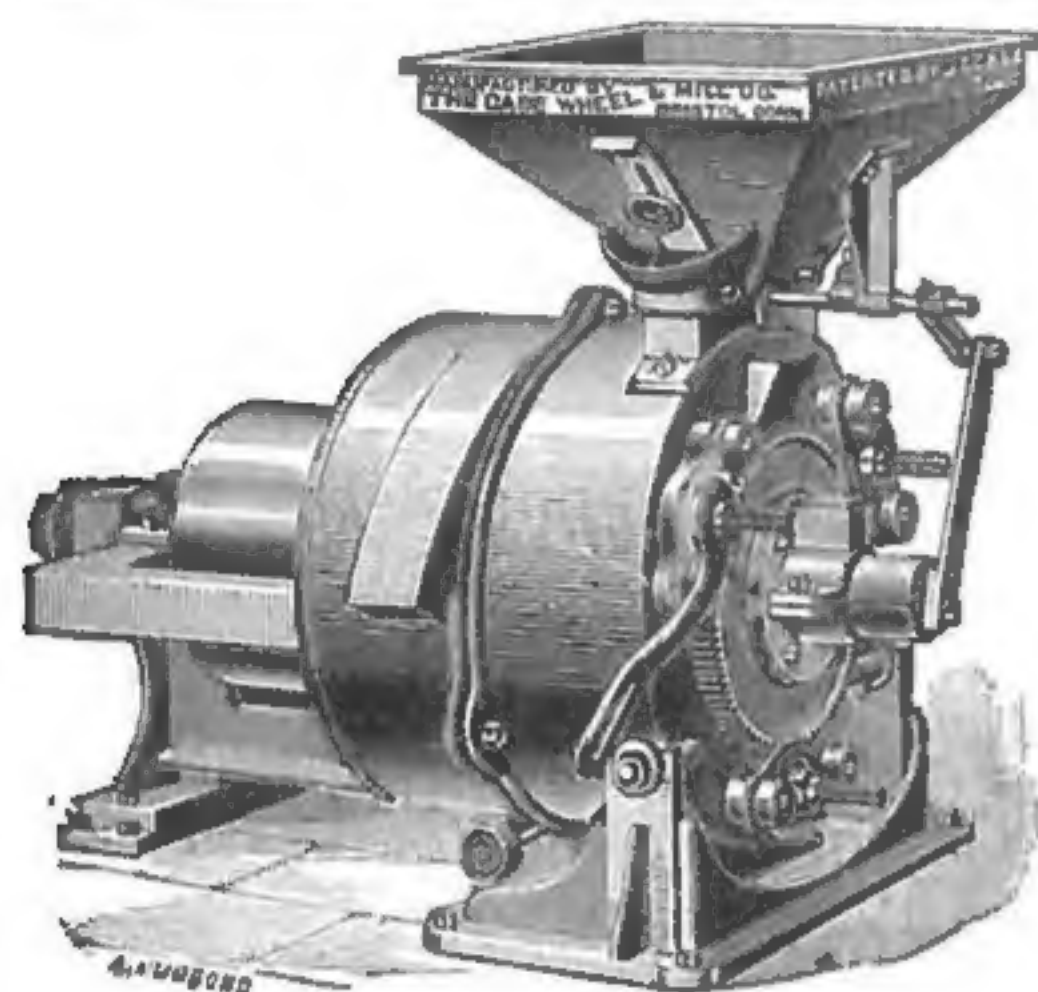
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXI. No. 18.

BUFFALO, N. Y., DECEMBER 30, 1889.

\$1.50 PER YEAR



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

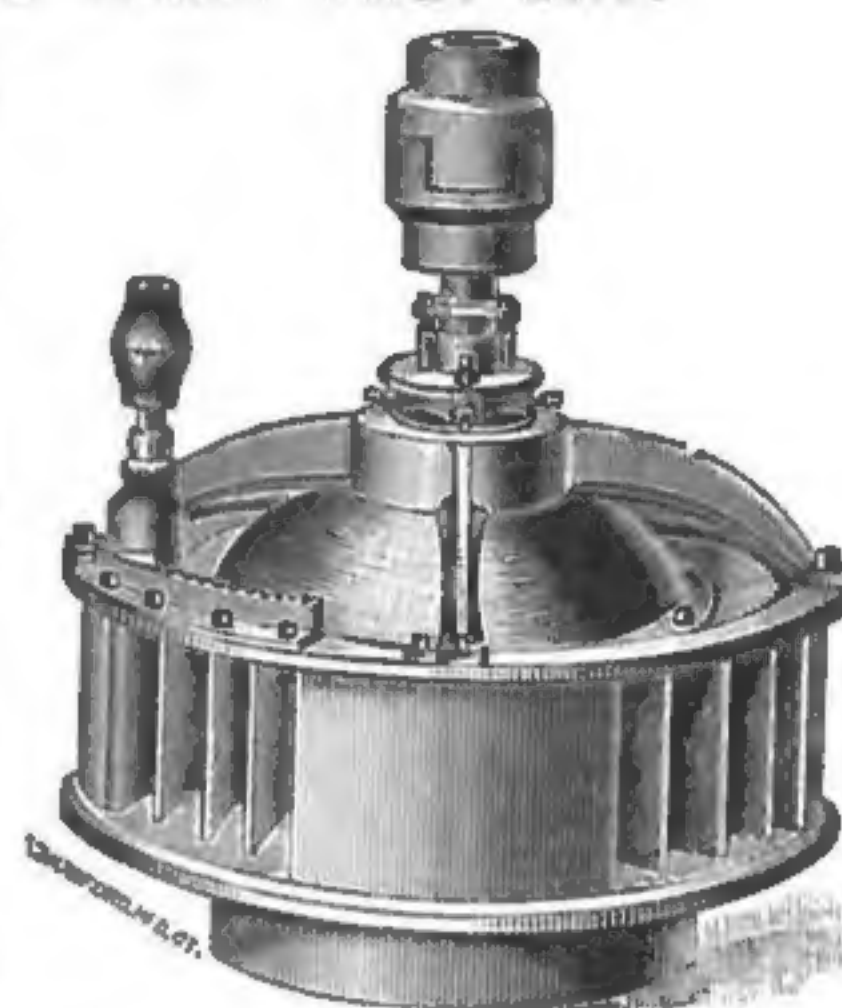
FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.
 "Superior to any mill in use."—Geo. WESTON, Bristol, Conn.
 "The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.
 "We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.
 SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

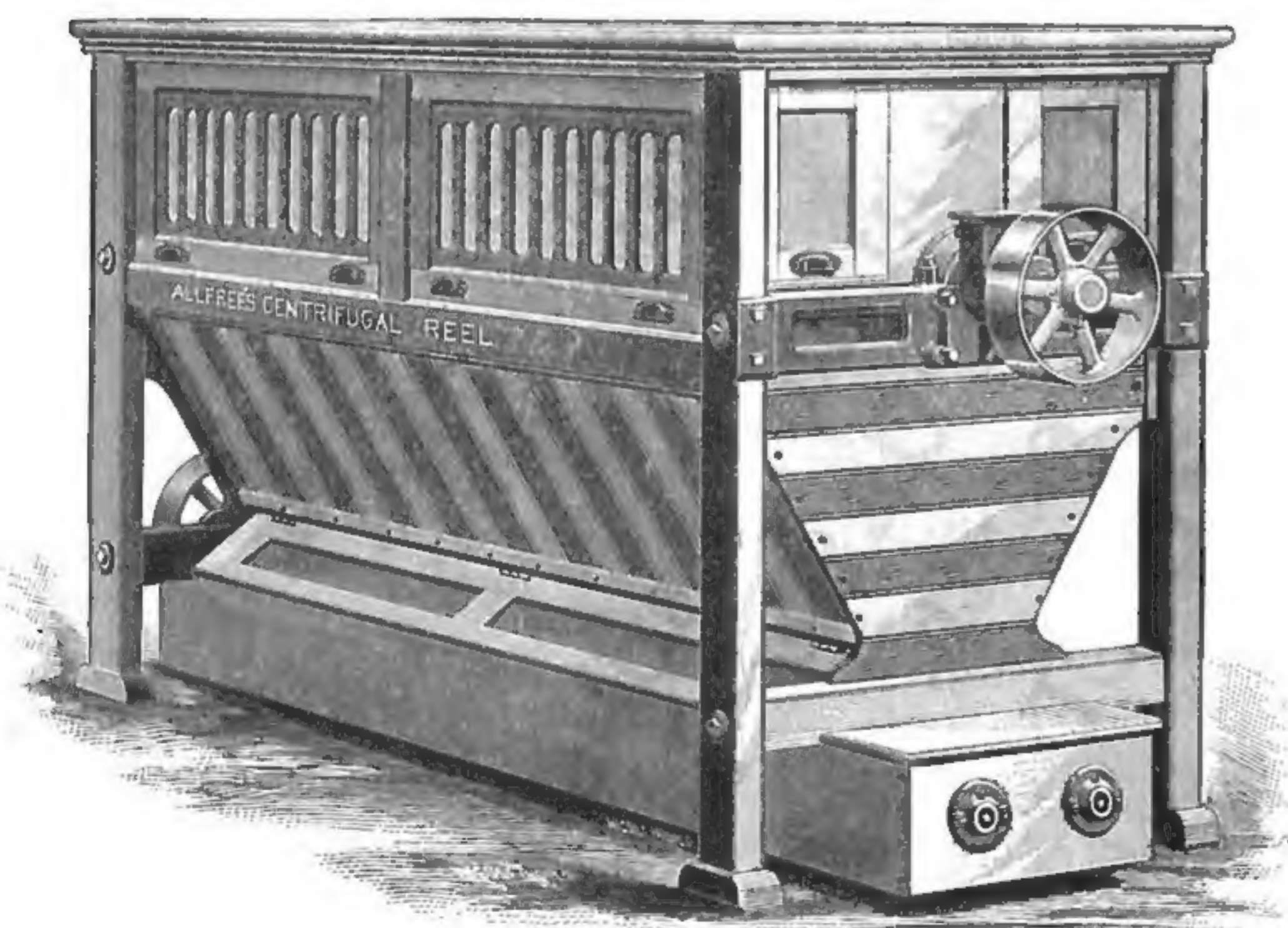
The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.

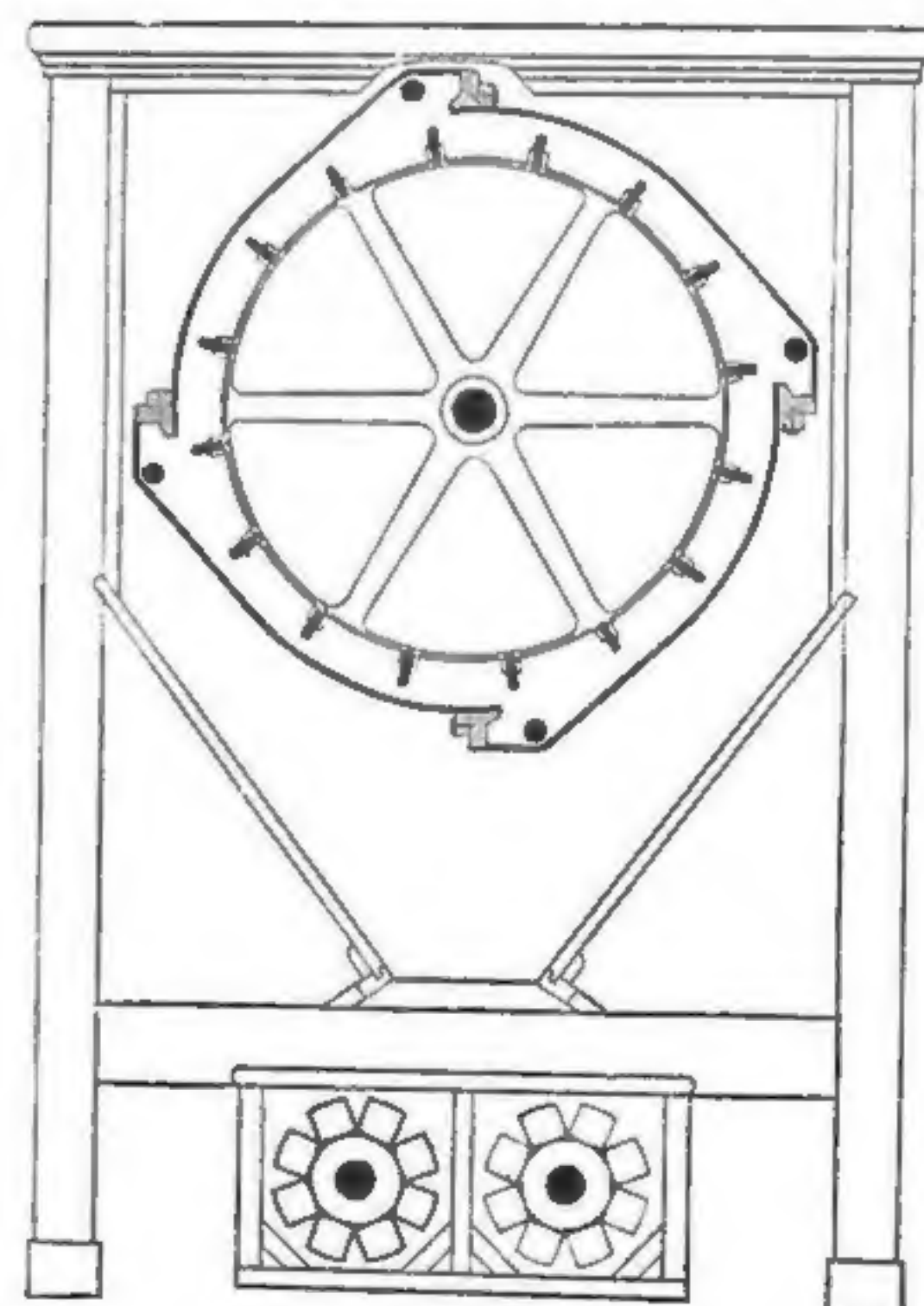
The Case Wheel & Mill Co., Bristol, Conn.



THE "ALLFREE" CENTRIFUGAL REEL



"A PAYING INVESTMENT
TO ANY MILL
ADOPTING
IT."



THE J. B. ALLFREE CO., INDIANAPOLIS, IND.

SHELBYVILLE, IND., DEC. 16, 1889.

GENTLEMEN: Replying to your favor of the 9th inst., asking how I am suited with the Centrifugal put in the "Brandywine Mills" last June, will say that it is a happy surprise. IT DOES MORE THAN YOU CLAIMED FOR IT to my entire satisfaction (remember you induced me to use a No. 2 instead of a No. 1 in my fifty-barrel mill). Judging from the amount of stock it can handle, would think a No. ½ would be large enough for my mill. IT MAY BE EQUALED BUT NEVER SURPASSED AS A PERFECT AND LIGHT RUNNING MACHINE. I can heartily recommend your Centrifugal, and am satisfied that it will prove a PAYING INVESTMENT TO ANY MILL ADOPTING IT. Wishing you the best of success, I remain, respectfully,

JOSHUA HERING.

ADDRESS FOR CATALOGUE AND PRICES

THE J. B. ALLFREE CO.

MILL BUILDERS & GENERAL MILL FURNISHERS.

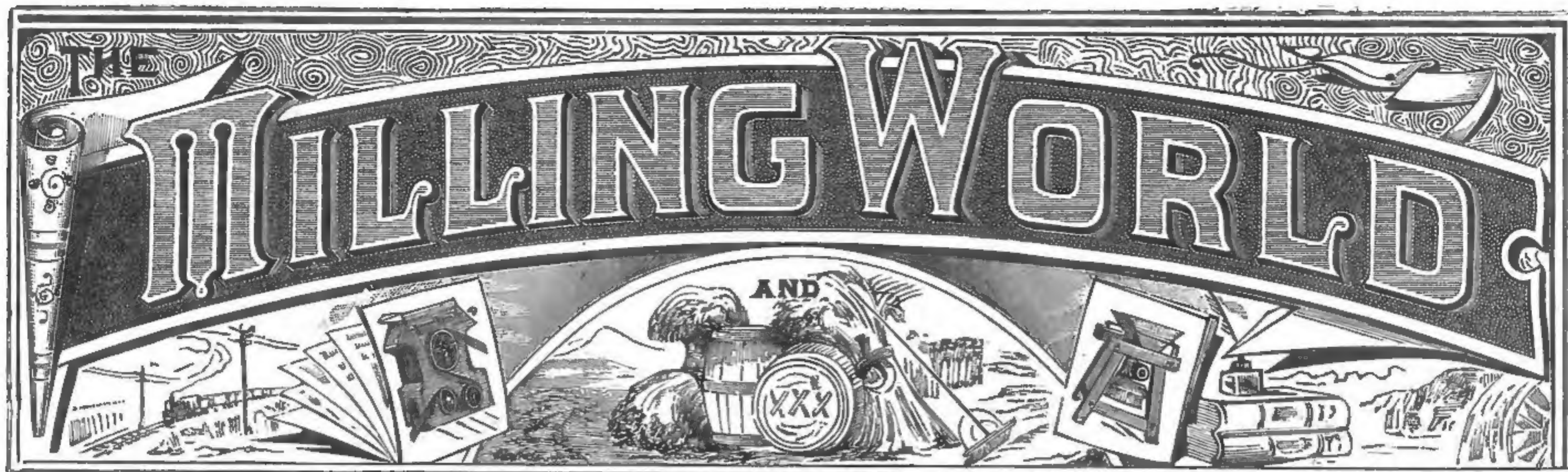
76 TO 86 SHELBY ST, INDIANAPOLIS, IND.

CASE.

CASE MFG. CO., COLUMBUS, O.
GENTLEMEN: If we were to build a hundred mills we
would not permit any other than the "CASE" roll to
enter them. They are the best roll on earth.
Yours truly,
W. C. MANSFIELD & CO.

W. C. MANSFIELD & CO.,
MERCHANT MILLERS,
CLEVELAND, TENN., AUG. 29, 1889.

CASE.



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DECEMBER went against the prophecies of all those weather prophets who predicted "an early, close and cold winter." Nowadays the prophets seem to have no sort of show, nohow! Everything goes against them, whether they are foretelling weather, or crops, or prices. Their luck is bad. They have the sympathy of the unregenerate public.

ACCORDING to a Winnipeg paper, there are hundreds of farmers in drouth-smitten, wind-swept, blizzard-scourged and starving Dakota, where last season they raised the beggarly crop of 48,000,000 bushels of wheat, who are looking for homes in well-watered, drouthless, windless, blizzardless and abounding Manitoba, where last year they grew the magnificent crop of nearly 5,000,000 bushels of wheat? O Author of Lies, in haste arise from thy dreams of tame mendacity, skip over the border, and find to order an ocean of Manitoban un-veracity!

THAT much maligned and much malignant old gentleman of Chicago, known familiarly as "Old Hutch," recently made a furious attack on the Chicago newspaper reporters and objected to being called "Old Hutch" in print. The gay Chicago newspapers now refer to the venerable speculator as "Mr. B. Peters Hutchinson," and the new title pleases the old gentleman so much that he has doffed his old slouch hat and donned a shining new "dicer" of the latest fashion. Thus does a little courtesy soften the asperities even of an old grain speculator!

"THERE no doubt has been some heavy 'shorts' selling of late, and prices have scarcely declined to the extent that such selling was expected they would." This quotation is not from the "Daily Raver," published in the Fooltown idiot asylum, although it reads like the demented utterance of a madman. It is from a "Wheat Review" published by Howard Bartel, whoever he may be, and sent out to the trade as a commercially valuable document. We advise Howard Bartel to abandon wheat-reviewing, at once and forever, and apply himself to the study of the English language. If the quotation is a specimen of what he can do in his inspired flights of malediction, he should macerate his hebetudinous, rhombo-cephalic caput in frigid aqua pura, taking care to make the immersion pronounced and permanent.

NOT all English and Canadian millers are willing to believe in American things. Our esteemed cotemporary, the London "Miller," in its issue of December 9, prints the following: "A Canadian miller writes us this morning in reference to the advantages British and Irish millers have over their American competitors in milling American spring wheat: 'I would sooner mill spring wheat in England than in America; your climate would assist in the manufacture, therefore capitalists on his score are wrong to take up American flour-mills; the advantages are not there. Things will be worked to such a fine point shortly that your investors will find they have put their money in the wrong spot. What I know against Minneapolis is that the spring wheat

is not so available for the mills there as formerly, and the water power is diminishing."

OUR esteemed English cotemporary, the London "Miller," says: "To tell the truth, American flour is now far from being a name with which flour factors or any one else can conjure. This may be partly owing to the fact that so many of the best known Transatlantic brands have of late years exhibited a remarkable falling off in quality." In the same paragraph our cotemporary says: "But another potent factor in the comparative indifference now manifested to shipments of flour across the Atlantic is, doubtless, the steady and visible improvement in British roller flour. The British roller miller seems now fairly to have mastered his new tools, and the consequence is that he succeeds in producing an article which can hold its own, and sometimes a little more, with American brands." This juxtaposition of ideas throws a singular light upon British flour in general, and it is open to question whether or not the average British miller will feel complimented when he reads the two statements. For instance: 1. Only two or three years ago American flour was denounced in England as "respectable offal." 2. Since then there has been "a remarkable falling off in quality" from even the average of "respectable offal," which must put American flour very far down, indeed, in the scale of hopeless badness. 3. The British roller miller has become able to produce a flour that sometimes a little more than holds its own with American brands! Possibly the British roller miller may see in these statements something which they were not intended to show him.

"How are you feeling to-day, Uncle Zeke?" asked the physician of the sick colored man. "O Marse Doctah, I'se mighty powerful weak, sho's you'se bawn!" answered the old man. His condition evidently resembled that of the "statistical position of wheat" at present, which may be characterized aptly as "powerful weak," notwithstanding all the assertions of the statistical doctors to the contrary. Russian ports are closed by ice, and Russian shipments of wheat are said to be as low as possible. Indian shipments are said to be practically ended for this crop. France is depending mainly upon home-grown supplies and importing very little. Austro-Hungary is out of the field on account of her serious shortage. England has far less wheat home-grown than was at first reported. The European visible stocks are small. The amounts on passage are small. Canada has no wheat worth mentioning to export. Some of these facts would seem to mean a larger demand and higher prices for American wheat, but what are the main features of the market day by day? Free deliveries, small demand, small exports, small inquiry and small prices that ever seem to threaten to become still smaller in the near future. According to all accounts the European importers ought to be eagerly "hustling around" after supplies, but they "hustle" not. They are calm, unconcerned, unagitated, evidently believing that there is in existence plenty of wheat to be had at fair prices for the asking. Evidently the "statistical position of wheat" is "powerful weak."

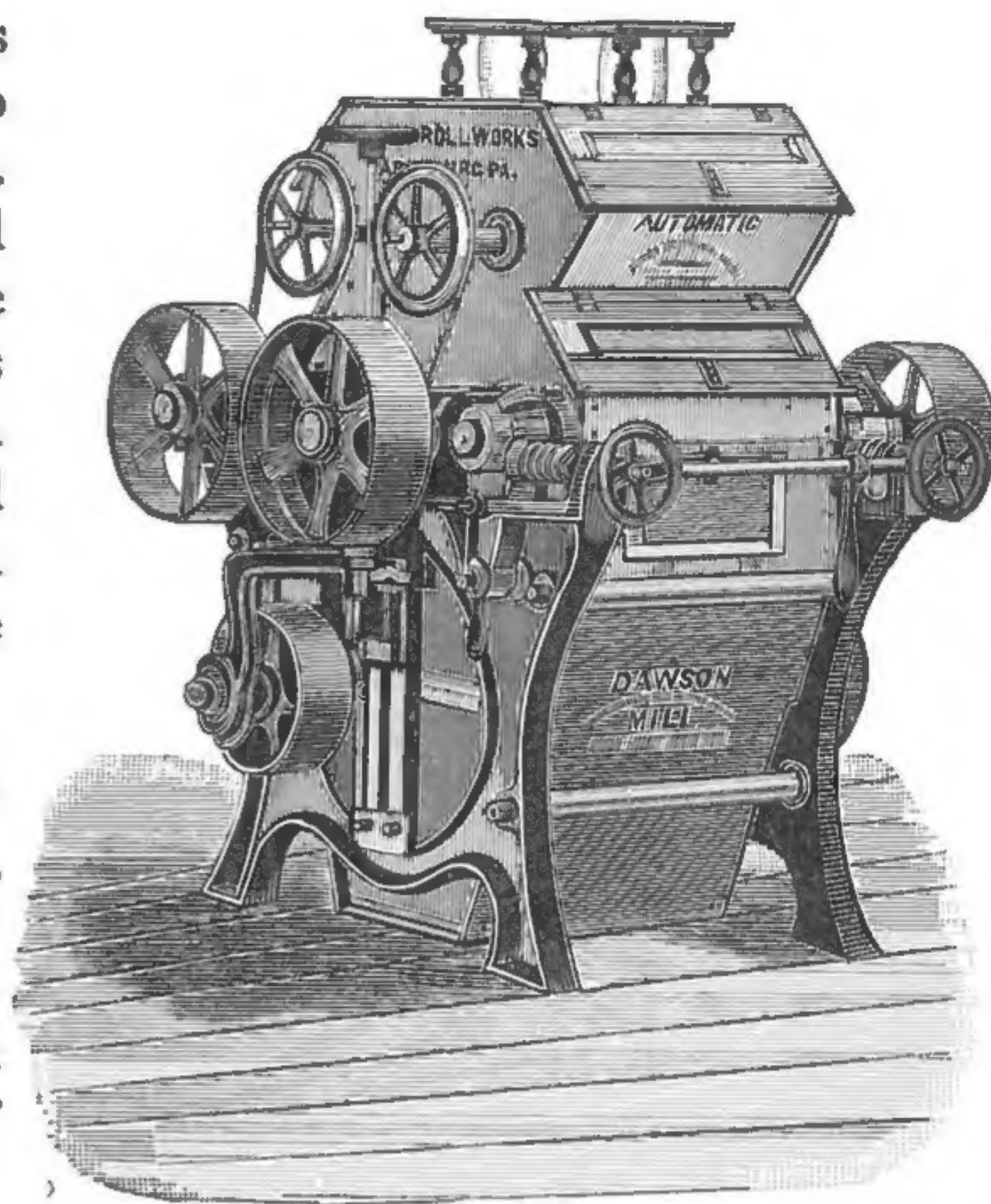
Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

We have a large plant to Re-grind and Re-Corrugate Rolls.

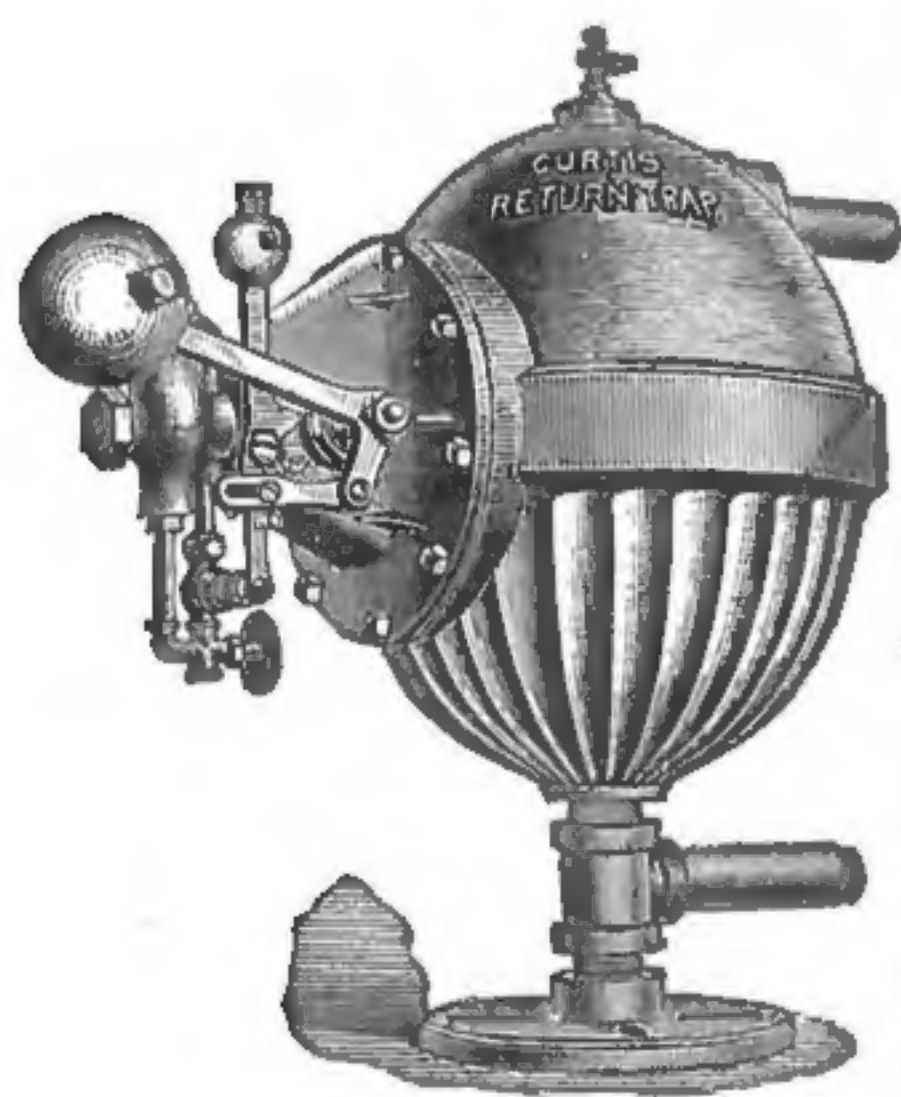
Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.



FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.



THE CURTIS PATENT RETURN STEAM TRAP.

It is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

THE CURTIS REGULATOR COMPANY,
NO. 74 BEVERLY ST., BOSTON, MASS.

GENERAL AGENCIES.

New York, 109 Liberty st. Minneapolis, 210 S. Third st.
Philadelphia, 2035 N. Front st. Chicago, 218 Lake st.

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WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
QUEEN CITY PRINTING INK CO.
CINCINNATI, O.

WHEN WRITING TO ADVERTISERS PLEASE MENTION "THE MILLING WORLD."

The Canton Cabinet Filing Case Company, Canton, Ohio.

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture



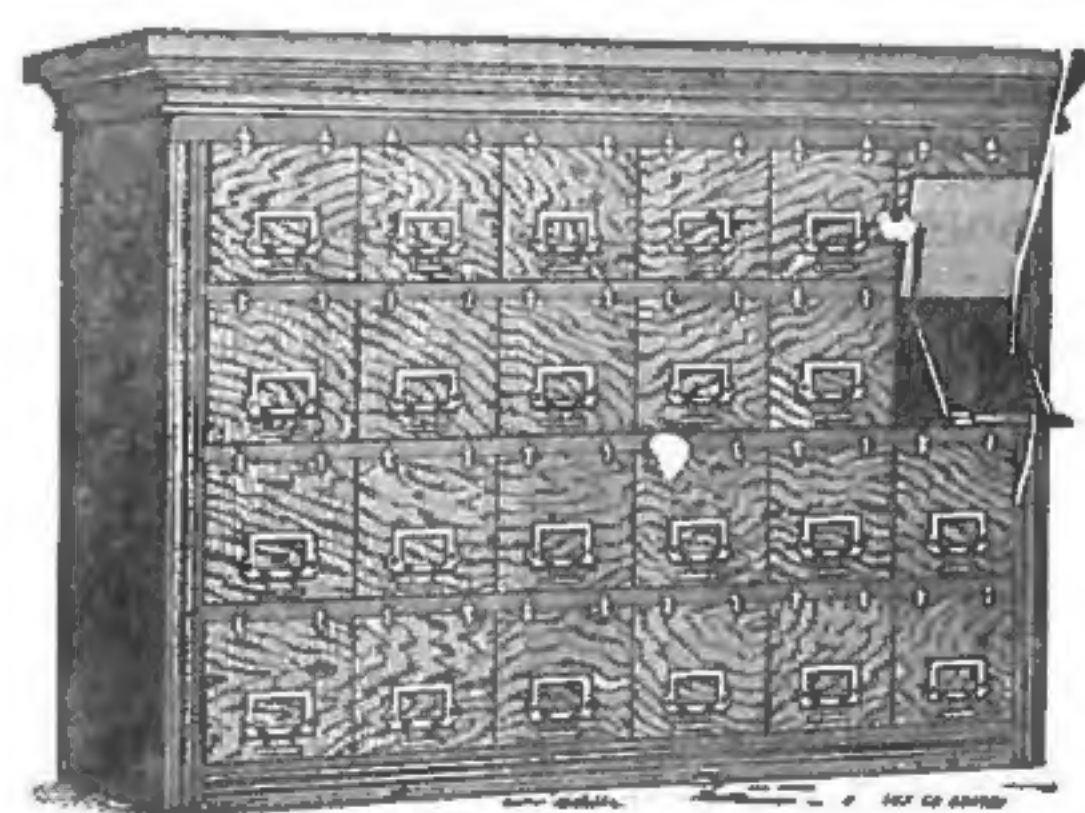
NO. 8.

NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 80 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

NO. 1 Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

SEND FOR PRICE LIST AND CATALOGUE.



NO. 1.

THE MILLING WORLD

AND
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisements taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

WANTED.

Situation wanted by a Miller of 9 years' experience, 24 years of age, of steady habits and willing to work. Address, H. care of The Milling World, Buffalo, N. Y.

WANTED.

Western New York, Ohio and Pennsylvania mills in want of a temperate miller, with 30 years experience, should write to the undersigned, who is now running a first class mill, but would like to make a change this fall. Address, W., care of THE MILLING WORLD. 56

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office 10 cents must be added to pay postage.

FOR SALE.

Merchant and grist mill. The best water-power in Ohio. Situated five miles from Mentor, Ohio. For particulars enquire of C. S. JOHNSON, West Mentor, O. 1216

FOR SALE.

Mill property in Central New York, for much less than it is really worth, with small payment down, or would take a partner with small capital to take charge of and run the mill. Address "B," care of THE MILLING WORLD, Buffalo, N. Y. 1720

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

8tf FLENNIKEN TURBINE CO.,
Dubuque, Iowa.

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.
One No. 2 Purifier. New. Best make. A bargain.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 8tf

M-I-L-L-E-R-S

Wanting Bolting Cloths should write for discounts on same before purchasing elsewhere to

SAMUEL CAREY
17 Broadway New York.

FOR RENT.

Clinton Mills, at Black Rock, Buffa'o, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 311 Main Street, Buffalo, N. Y. 6tf

FOR SALE.

Full roller mill, 100-bl. steam power; also, a water power buhr mill, dwelling and ten acres of land. Prices low on either and terms easy. Address, J. R. ENGLISH, Piketon, Ohio. 10

WANTED.

A miller who can purchase an interest. Business rapidly increasing. Must enlarge mill and add machinery. Only mill in this, Gray's Harbor, region. Good water-power. Address, REV. HIRAM F. WHITE, Elma, Chehalis County, Washington Territory.

THE Minneapolis "Yahoo's" dirty and malicious attack on the Richmond, Va., flour market receives the condemnation of all honest men. Unless the "Yahoo" gives names and dates, it will stand branded as a liar.

Why does not Chicago make a bid for one or more great flouring-mills? If the aroma of her river could be utilized as a motive-power, she would have an inexhaustible supply of power that would make all ordinary water-powers, natural-gas wells and steam-powers extremely tired and "all gone" in feeling. Some Chicago genius should set to work to utilize the able-bodied fragrance of Chicago's scum-covered, macmudamized, reeking, seething river. The bacilli, spirilla, microbes, micrococci, saccharomycetes and staphylococci sporting luxuriantly in that aroma should be forced to earn a living in some way. Now that the Auditorium is finished and dedicated, let the abounding and un-squelchable genius of Chicago tackle the riant Chicago smells.

NOLANS, volens, the milling editors of the United States are "honorary members," at least, of the Millers' National Association! How did it happen? As easy as getting smothered in a grain-bin or blown up by flour-dust. The Northern Indiana Millers' Association, at the December meeting of that body, voted itself into membership in the National body, and then immediately proceeded to elect the milling editors, milling-machinery men and officials of millers' associations honorary members of the Indiana association! Presto! The move appears ridiculous, especially as Secretary Barry had just been delivering an oration, in which he referred to those who had "opposed" and "misrepresented" the National body as "Our Enemies"! Empty statements about the enormous growth of the National body do not convince the public that that body has grown or is growing. A printed list of the actual members engaged in flour-making and allied industries would settle all doubts at once and for a year at least. Until such a list has been printed, all statements about phenomenal growth would better be pigeon-holed.

SECRETARY Barry, of the Millers' National Association, attended the recent meeting of the Northern Indiana Millers' Association, held at Fort Wayne, Ind., on the third of December, and in an address to that body he referred to the action of patent owners towards the National Association. His words are: "Patent sharks realize the necessity of steering clear of members of our association. * * * In the aggregate these sharks could collect considerable money, were it not that the National Association is ever upon the alert to frustrate such rascally schemes." The "rascally schemes" consist of "attacking millers located at distances sufficiently removed from each other to prevent united action against them." These are brave words! Are the firms composing the Consolidated Roller Mill Company ready to swallow without protest Mr. Barry's appellation of "patent sharks"? Are they really engaged in "rascally schemes"? As Mr. Barry was, only a few months ago, in the employ of one of those firms, and as he possibly knows something about their manner of doing business, are we to understand that he speaks by the book when he calls them "patent sharks" engaged in "rascally schemes"? The question is pertinent. Mr. Barry, do you stand ready to back your brave words? Gentlemen of the Consolidated Roller Mill Company, do you submit without protest to Mr. Barry's characterization of yourselves and your actions?

CORROSION FROM STANDING WATER.

"The Locomotive."

Our illustrations show some of the effects of standing water upon metal with which it is in contact. Figs. 1 and 2 show a familiar form of corrosion, one that we meet with every day, and which has doubtless been seen by all our readers. In the chemistries both tin and iron are classed as metals that do not decompose water at ordinary temperature; that is, they do not abstract oxygen from pure water and appropriate it to themselves to form rust. It would seem, therefore, that the oxygen that forms the rust must come from something in the water. Now, the purest water often is the most active in corroding and pitting plates, and this makes it probable that the active substance, in some cases at least, is air. It is well known that water is capable of dissolving a considerable amount of air; in fact, it is this dissolved air that enables fish to breathe. It is not so widely known, however, that the oxygen of the air is more soluble than the nitrogen. If a small quantity of water be shaken up in a bottle it dissolves some of the enclosed air, and when this is afterwards driven off by boiling and analyzed, it is found to consist of oxygen and nitrogen in the proportion of 1 to 1.87, instead of 1 to 4, as in the natural air. Thus the dis-

solved air, being more than twice as rich in oxygen as common air is and being brought into more intimate contact with the metal by means of the water that holds it in solution, exerts a correspondingly more noticeable effect. It is probable, too, that water plays some other important action in connection with the oxidation of metals, for it has been found by recent experiments that pure oxygen will not combine with things that it has the greatest affinity for, provided it is perfectly dry. Even the metal sodium, which has an intense affinity for oxygen, may be heated in it to a very high temperature without combination, provided sufficient precautions are taken to exclude the slightest trace of moisture. It appears, therefore, that water plays a most important part in the oxidation of metals by air, a part, indeed, that we can not explain and that we really know but little about. The dipper shown in Fig. 1 has hung for a considerable time in the boiler-room of a large paper-mill, where it has been in constant use every hour in the week except for a short time on Sunday. Its usual position is shown in Fig. 2. The fireman, after taking a drink, would throw the unused water to one side and return the dipper to its place on the wall. The film of water still clinging to it would run down on the inside and collect at the lowest point, A, in Fig. 2, standing

there until the dipper was once more in use, when the same thing would happen again. The result is that, though the dipper is perfectly sound in all other places, in the particular spot where the water rested it resembles a sieve, as shown in Fig. 1. In Fig. 3 the effects of a related but different form of corrosion are seen. The cut represents a portion of a two-inch tube taken from a small boiler that was used at irregular intervals, water being left standing in it during the time it was not in operation. Perhaps it would be used for a few days and then remain idle for a month or more. Most of the pits were quite deep, and two, near the left-hand end of the part shown, had perforated the tube entirely. The action shows itself first in the formation of a thin blister of rust, two good examples of which are shown on the upper side of the tube, and one near the right-hand end. In some cases these have fanciful and fantastic shapes, resembling fungus growths on the metal. These blisters or fungus-like growths may be easily removed, and the surface of the metal below will be found to be of a reddish-black color. It may be that no change other than this discoloration will be visible when the blister is removed; but by pecking at this discoloration sharply with the point of a knife, it will be found that a considerable quantity of oxide may be removed before the bright metal is exposed, leaving pits of various sizes. Those shown in the cut were brought out in this way. The pitting action shown in Fig. 3 is most liable to occur when the boiler is put out of use and left with water standing in it; but it often occurs in boilers that are running constantly,

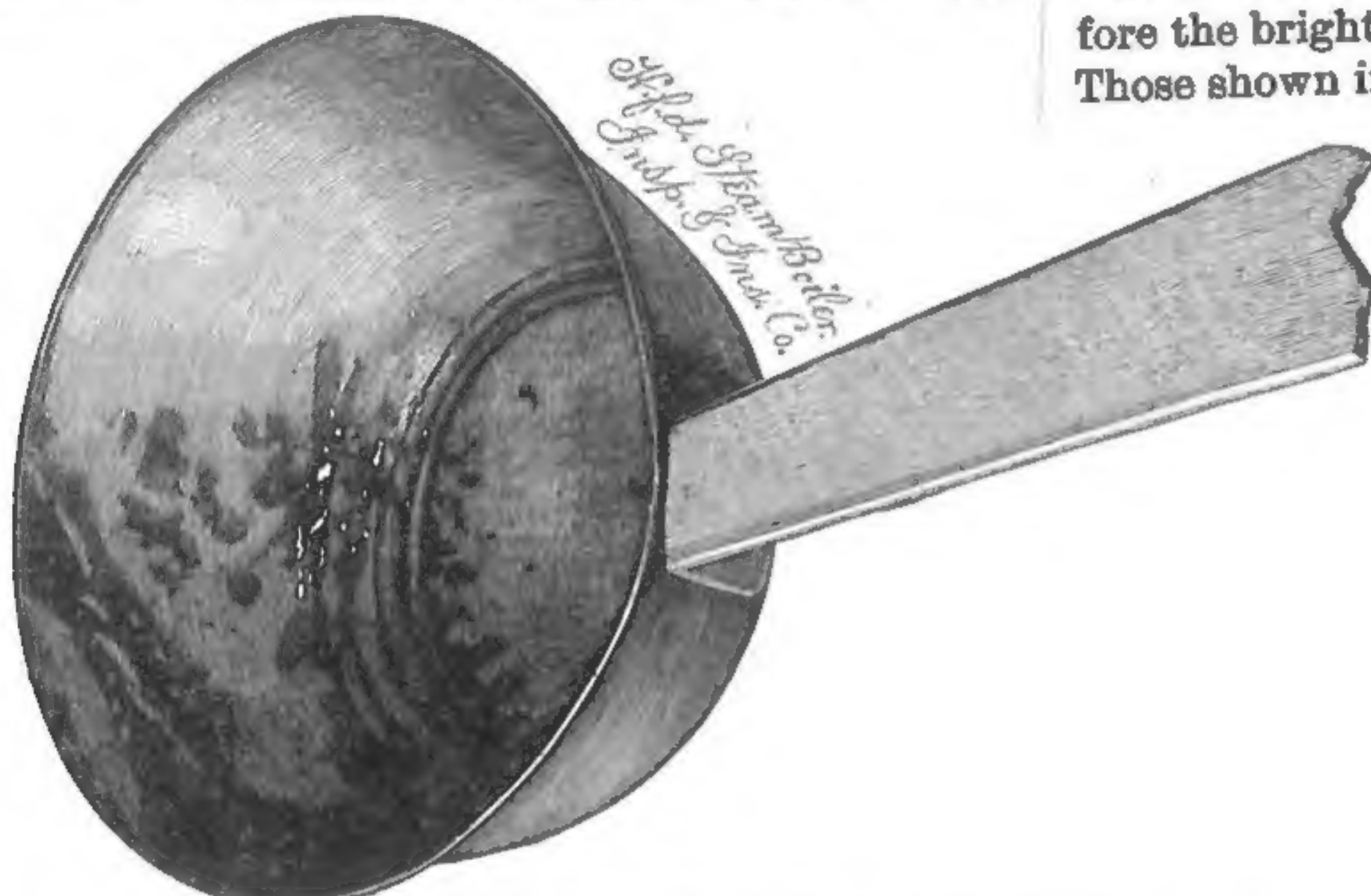


FIG. 1.—CORROSION FROM STANDING WATER.

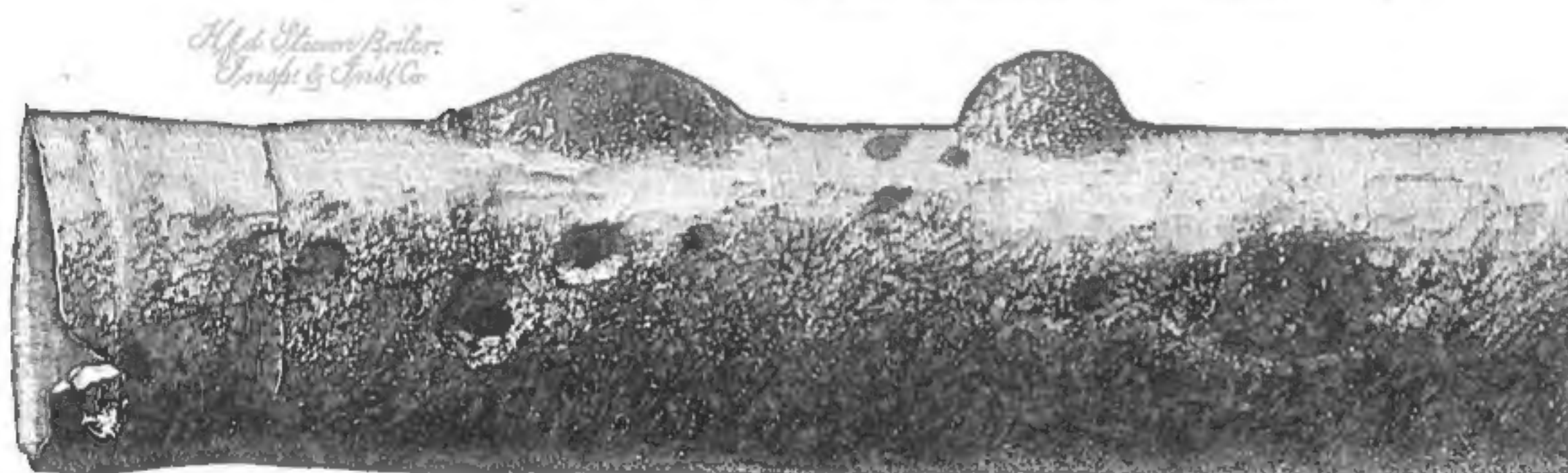


FIG. 3.—A TUBE PITTED BY STANDING WATER.

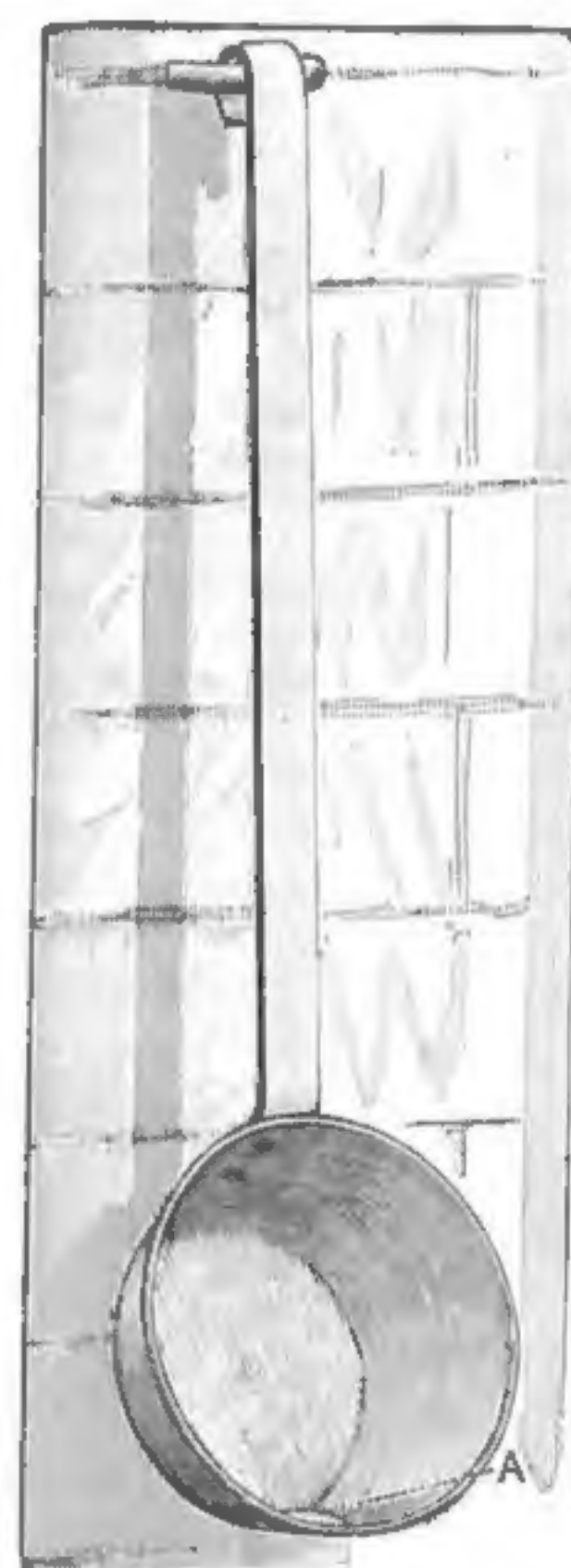


FIG. 2.

provided the circulation is not good, so that water stands in places. It often develops, for instance, in mud-drums and in feed-pipes that are not in continual use. An interesting case of feed-pipe pitting is to be seen near here at the moment of writing. Water is taken from the city mains and pumped through a heater to the boiler. From the city main to the heater the pipe is clean and free from pits; but from the heater to the boiler, where the water is warm and often not in motion, the pipe is pitting with great rapidity. The fact that this action is often most severe where the water is purest seems to be explained by the formation of a thin projecting layer of scale in the boilers using water that is less pure, which acts as a sort of varnish and prevents the water from coming into intimate contact with the metal. In laying by heating boilers for the summer water should never be left standing in them, for, if the conditions are just right, the tubes may be entirely ruined and the shell badly pitted in a few summers. These boilers should be blown off while warm and cleaned and washed out, and it is a wise thing, when it is possible to do so, to send a man inside to wipe everything out dry and see that no water is left standing anywhere. Then a light fire of shavings may be started on the grate, just enough to warm the boiler through and dry it out well.

There is a light fire of shavings may be started on the grate, just enough to warm the boiler through and dry it out well.

A SAW-FLY BORER IN WHEAT.

II.

At this time there were observed scattered through the field heads of wheat which were yellow and contained no grain. These dead heads corresponded in appearance exactly with those described by Herpin in the extract quoted below. I carefully examined many of these stalks and found that in no case was the injury due to *Cephus Pygmaeus*. In most cases the heads had been killed by a species of Thrips, which sucks the juice from the stalk, in the tender portion, within the sheath of the upper leaf, just above the upper joint. This causes the stalk to shrivel at this point and all above the injury to die. The disease of the wheat is similar to the common one of grass; but the Thrips which produces it is larger than that infesting grass and is further distinguished by having its antennae marked by dark rings.

Although this saw-fly borer has not been previously observed in this country, it is a well known European species. It has been described by both English and Continental writers, and in France especially it has been considered a very serious pest. One writer says: "If you traverse a field of wheat or rye a week or a fortnight before harvest, you may observe a greater or less considerable number of the stems, the straight and whitened ears of which elevate themselves above the others and appear to have attained their perfect maturity. They form a striking contrast with the neighboring plants, which are still very green; and the heavy ears filled with grains are inflexed and bent towards the earth, while the others are entirely empty or contain only a very small number of grains of wheat, which are for the most part shrunk and horny." The same writer in referring to the circular cut made by the larva before spinning its cocoon states that: "In consequence of this section, the straw, having no more sustenance, breaks off at the foot and falls to the ground when the wind becomes a little strong; the field then presents the same appearance as if it had been traversed in every direction by sportsmen or by animals."

In this country, according to my observations, the injury to the wheat by this insect produces results somewhat different from those just described. I found the same lodging of the wheat caused by the circular cut near the root; but this lodging of the grain appears to be the chief injury here. I did not find that the presence of a larva in a stalk caused the complete destruction of the seed described by European writers. In fact, in most cases, the grain shelled from a certain number of infested heads weighed more than the grain shelled from the same number of non-infested heads taken from the same bundle in regular order after the infested ones had been removed. (See note 7.)

This was at first very puzzling. It seemed to point to the absurd conclusion that the presence of this borer within a stalk increased the amount of grain produced by that stalk. It was noted, however, that the infested stalks were almost invariably large, healthy ones, with good well filled heads. When we recall the fact that the laying of the eggs takes place while the wheat is still small, and that a stalk must be large enough to contain a hollow of considerable size before it is suitable for the development of a larva, it will be seen that the stalks infested will naturally be those that are the largest early in the season; while the stalks that are backward in their development, and consequently will produce smaller heads, will escape the attack of the insect. Therefore, a comparison of heads from infested stalks with heads from stalks of average size will not indicate the results of the presence of the insect. Still, as I have already said, it appears that with us the chief injury caused by the insect is the lodging of the grain.

Some observations were made to determine how abundant this insect is at Ithaca. It was found that the proportion of straws infested varied from $\frac{7}{10}$ of one per cent. to 11 per cent., with an average of $4\frac{1}{10}$ per cent.

It is stated by European writers that this Saw-fly infests both wheat and rye. I had no opportunity to study the last named grain, but made some observation to determine the range of food-plants of the insect here. There was a field of oats on the University Farm adjoining a clover field that was

in wheat last year. These oats were sowed very early, so that at the time the Saw-flies were ovipositing the stalks were large enough to receive the eggs. I found Saw-flies on the plants; but a careful examination of a large number of oat straws made at harvest time failed to reveal a single infested straw.

I confined fifty Saw-flies, thirty males and twenty females, in a cage with growing orchard grass which was large enough to receive the eggs. In a short time the females began to oviposit freely in the grass; but, although many eggs were laid in the grass, I was unable later to find a single larva or any indications of their having fed upon the interior of stalk. Neither could larvae be found in orchard grass growing in a field where was wheat last year. Curtis describes a parasite that infests this Saw-fly in England. It is the Ichneumon-fly, *Pachymerus calcitrator*. But although I have bred many hundreds of the Saw-fly and have examined thousands of infested straws, in only two instances have I found any indications of parasites. (See note 8.) We must, therefore, depend on artificial means for checking the increase of this species.

The most obvious method of combating the insect is to attack it while it is in the stubble, that is to say, sometime between the wheat harvest and the first of the following May. If the stubble can be burned in the autumn the larvae in it can be destroyed. The same thing could be accomplished by ploughing the stubble under, which would prevent the escape of the adult flies. But as it is customary in this region to sow grass seed with wheat, I fear that the ploughing under of infested stubble would rarely be practicable; and it is also questionable if the burning of the stubble could be thoroughly done without destroying the young grass. It seems probable, therefore, that if this insect becomes a very serious pest it will be necessary, in badly infested regions, either to sow grass seed with oats and burn or plough under all wheat stubble, or to suspend the raising of wheat for one year, in order to destroy the insects by starvation. I purpose to continue my experiments in the direction of ascertaining in what plants, other than wheat, the insect can develop, as bearing on the starvation method of combating it.

NOTES.

Under this head are included the more technical descriptions and the details of certain observations that I desire to put on record, but which would not interest the general reader.

NOTE 1. Description of the adult of *Cephus Pygmaeus*. The adult is of a shining black color, banded and spotted with yellow; the male measures 8 mm. in length, the female 10

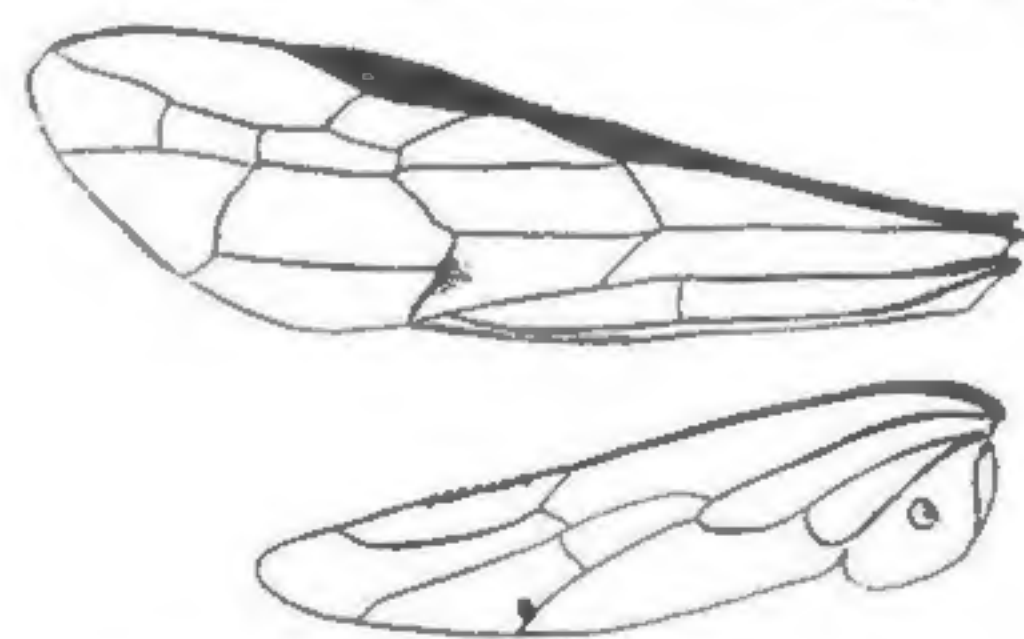


FIG. 8.—Venation of wings of *Cephus*.

mm. The body and appendages are clothed with numerous microscopic hairs. These are somewhat longer and denser, especially in the male, on the ventral aspect of the abdomen and at the caudal end of the body. The head is large, with prominent eyes. There are three ocelli, forming a triangle near the summit of the head. The antennae are inserted on the front nearly opposite the middle of the compound eyes. They are about 5 mm. in length, slightly clavate, and are composed of 19 or 20 segments. The two antennae of the same insect sometimes differ as to the number of segments. The first segment is ovate with a well marked bulb at the base, which appears like a distinct globular segment. The second segment is short, being only about as long as broad. The three succeeding segments are elongated, after which the segments become successively shorter until the middle of the club is reached; where their length is less than their width. Beyond this there is but slight variation in the length of the segments. The last, however, is somewhat longer than those immediately preceding it, or it is divided,

thus forming the supernumerary segment. The four wings are transparent and iridescent, but somewhat smoky. The costal margin of the wing is yellow towards the base; the sub-costal vein, which is closely united to the costa is, like the other veins, dark, pitchy brown. There is a more or less well marked smoky spot in the third discoidal cell extending from the origin of the posterior vein. The venation of the wings is represented in Fig. 3. In the male the yellow markings are much more extended than in the other sex, the following named parts being of that color: The mouth parts, except the tips of the mandibles, which are dark-brown; a spot on the clypeus; a narrow margin between the compound eyes and the mouth parts; the ventral aspect of the thorax; the legs, excepting a dark band on the caudal aspect of the coxae and femora (the tibiae and tarsi are sometimes brown or smoky instead of yellow); the membrane at the base of the abdomen; on the ventral side of the abdomen the caudal margin of each segment; on the dorsal side of the abdomen a more or less well marked spot on each side of the first and second abdominal segments; a broad band occupying the caudal three-fourths of the third and fifth segments; a narrow band on the caudal margin of the sixth segment; which may be more or less interrupted, forming spots on the back and sides; and the latero caudal angles of the seventh segment. In the female there is a yellow spot at the base of the mandibles; the maxillary palpi, except the terminal portions, are yellow; the tibiae and tarsi vary from light yellowish brown to dark smoky brown; those of the hinder pair of legs usually being darker; the markings of the abdomen are the same as in the male, except that the yellow spots and bands are usually smaller and are sometimes entirely wanting on the ventral aspect.

NOTE 2. Description of the larva of *Cephus Pygmaeus*. The larva is of a yellowish milky-white color, with the head brownish, the tips of the mandibles and the eyes black. When fully grown it measures from 9 mm. to 14 mm. in length; but in spinning the cocoon the body becomes shortened, measuring after that operation from 5 mm. to 9 mm. The body is nearly cylindrical in outline. The head is of medium size, being much smaller than either of the thoracic segments. The thoracic segments are somewhat swollen, and the abdomen tapers gradually from the thorax to the caudal end. The antennae are four-jointed and taper strongly. A short distance ventro-caudal of each antenna is a single black ocellus. The labrum is prominent and slightly emarginate. The mandibles are strongly toothed. The maxillary palpi are four-jointed. The labium is slightly emarginate. The labial palpi are three jointed. There are ten pairs of spiracles, two thoracic and eight abdominal. The prothoracic spiracles are much larger than the others and are greatly elongated. The second spiracles open in the fold between the mesothorax and metathorax. The remaining spiracles are borne by the abdominal segments one to eight. The thoracic legs are represented by very short tubercles. There is at the caudal end of the body on the middle line dorsal of the vent a prominent tubercle. This is terminated by a chitinous ferrule-like ring; and is doubtless an organ of locomotion, aiding the insect in pushing itself up the cavity of the straw. On each side of the ventral lobe at the caudal end of the body there is also a stout spine. These spines probably have the same function as the tubercle just described. The body is naked, except the head and caudal extremity. There are a few slender scattered hairs upon the head, and a like quantity of stronger more spine-like hairs at the caudal end.

COTEMPORARY COMMENT.

The "soft corn" spoken of frequently as composing the bulk of supplies in the middle western states refers to the new crop, only a small percentage of which has yet found its way to the forward markets. This is stated to mitigate the pain from which some of our foreign cotemporaries are suffering on account of "soft corn."—*Chicago "Daily Business."*

A large part of Dakota is getting quite bare of surplus wheat, in the hands of farmers, and from such portions very little may be expected to come in the future. There are

other parts of the Dakotas, and the most of Minnesota, where much of the last crop still lies in farmers' granaries.—*Minneapolis "Market Record."*

The roller-mill controversy occupies a large portion of our space this month. For this we have no apology to offer, as the Consolidated started out with a great flourish of trumpets and made much noise with printer's ink, so much that many millers were somewhat frightened with the prospect of a lawsuit. An injunction and finally to pay a royalty to a combination of capitalists and patent attorneys was not a pleasant thought. As the events come along, our readers will be kept posted on every move made. So far no one has been hurt, and the lawyers are drawing a good fee from the interested parties.—*Enterprise "Kansas Miller and Manufacturer."*

EXECRATE THIS AT YOUR LEISURE!

ONCE IN A THOUSAND YEARS.

Inventors bring out a good flouring-machine
But once in a thousand years.
A "real revolution in milling" is seen
But once in a thousand years.
The fads of the faddists, from others purloined,
Done up in machines either square-topped or groined,
In dollars and cents are successfully coined
But once in a thousand years.

A writer on milling his foe will bepraise
But once in a thousand years.
His pen will go writing in Compliment's ways
But once in a thousand years.
Then he buries the grace in subsequent grunts,
In sneers meant to anger, in insults, affronts,
And goes back to the wallow from which he shunts
But once in a thousand years.

The Northwestern Yahoo can act like a man
Not once in a million years.
And mean as he acts is as mean as he can
Not once in a billion years.
He puffs and he rants about milling and wheat,
He thinks he is brains all the way to his feet;
The race grows his equal in cocky conceit
But once in a trillion years.

The Briton with calmness on Yankees can look
But once in a thousand years.
He fails to be-lecture him, candle and book,
But once in a thousand years.
He scolds Yankee flour, and he tries hard to "shake" it,
Roundly declaring that he never can bake it,
And yet, in the end, he refuses to take it
But once in a thousand years.

The Long System houses are busy and glad
But once in a thousand years.
The Short System movement stops growing "like mad"
But once in a thousand years.
O! the "Longs" have gone out and the "Shorts" have come in,
Enabling small millers to pile up the "tin,"
And a retrograde movement will likely begin
Not once in a trillion years.

The Hungarians admit that their flour is not best
But once in a thousand years.
The Germans admit they don't beat all the rest
But once in a thousand years.
The Britons confess India doesn't grow good wheat,
The Russians confess that their grain we can beat,
And the Yankees will fail "to get there" with both feet
Just 1,000 times in 1 year!

Duluth, Minnesota, December, 1889.

BANG.

MILLING PATENTS.

Among the patents issued Dec. 24, 1889, are the following:

Herbert E. Dennett, Boston, Mass., No. 417,710, a food compound, described as a new article of manufacture, the food compound, composed of the granulated steam-dried germs of cereals and dry beef-bones granulated while in a healthy state without cooking, said dry bones and granulated grain being thoroughly combined by mixing in equal parts.

John Waldron and Charles H. Sprout, Muncy, Pa., No. 417,760, a grinding-mill, whose points are set forth in the following claims: 1. In a grinding-mill, the casing of the runner-stone or revolving buhr, constructed with an elongated central hub, in combination with the shaft, a split screw-threaded tapered sleeve, and a nut for detachably securing the casing-hub to the shaft. 2. The combination, with an outer shell, a stationary buhr and a horizontal shaft, of a casing having a certain hub and external ribs, the latter being arranged tangential to the shaft, a split sleeve mounted on the shaft and forming a bearing for the hub, and a nut for securing the casing on the sleeve. 3. The combination, with a shaft, a casing having a central hub, and a rotary buhr secured within said casing, of a split sleeve mounted on the shaft and forming a bearing for the casing and a nut

for securing the casing on the sleeve. 4. The combination, with a shaft, a casing provided with a central hub, and a rotary buhr rigidly secured to said casing, of a split conical sleeve mounted on the shaft and forming a bearing for the casing. 5. The combination, with the shaft supporting the runner-stone or revolving buhr and the bearing for supporting the end of the shaft, of a metal block located in the bearing-box, a screw for moving said block toward the shaft, an independent block engaging the end of the shaft, and anti-friction balls interposed between said blocks and the bearing supporting them. 6. The combination, with a shaft mounted at one end in a box, of a longitudinally-yielding bearing mounted in said box and a hollow block located within said yielding bearing and carrying a lubricator-cup. 7. The combination, with a bearing and a shaft, of a sleeve yieldingly attached to said bearing, a hollow block located within the sleeve and carrying a lubricator-cup, a screw for moving the hollow block toward the shaft, and anti-friction balls between the block and shaft. 8. The combination, with the grinding-buhrs, of a hopper having one wall vertical at its lower end and flanging throughout the remainder of its length, a compound force and conveyer feed located in the spout of the hopper, the force-feed being located in proximity to the vertical side of the hopper, and a slide-valve for said hopper.

Theodore Ponsar, Talmage, Neb., No. 417,836, a grain scalper and grader, containing in a machine for separating flour and middlings from broken grain, the combination, with the inclosing-case having a screen fixed therein at an angle of between 40 and 70 degrees and having the hopper at its upper end and the discharge at its lower end above and beneath the screen, respectively, of the guide-bars on the inner face of the side walls of the casing, the vertically-adjustable supporting block or strip, the slotted bars secured to the block, the bolts and nuts for securing the bars to the case, the endless chain mounted on the sprocket-wheels, the beveled scrapers secured to the chain, and the clearing-brush also secured to the chain by the link.

A NEW METHOD OF TREATING DISEASE.

HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, *has ruined more stomachs than alcohol*. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

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The Cowles "Reliable" Sectional Wood Pulley

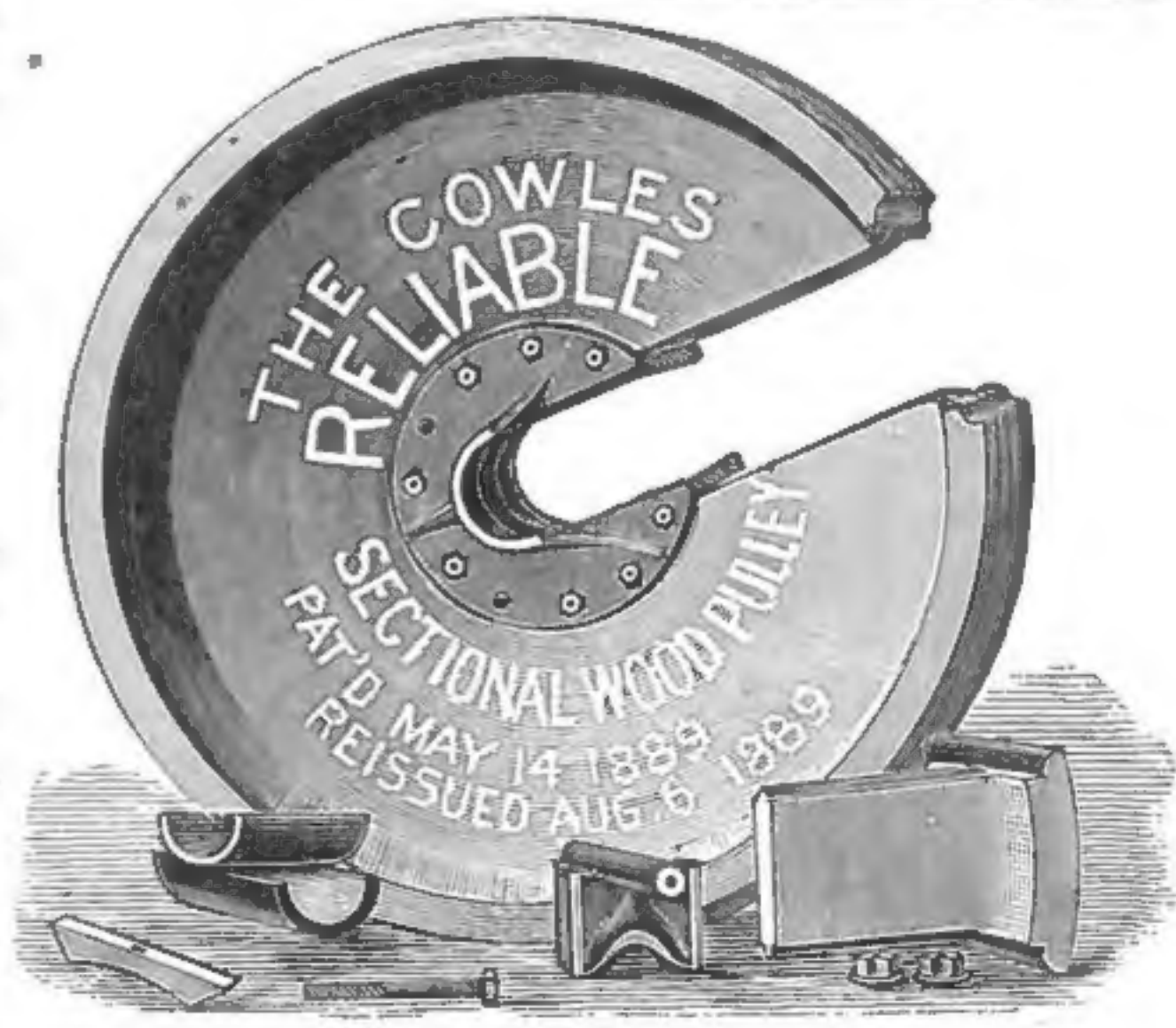
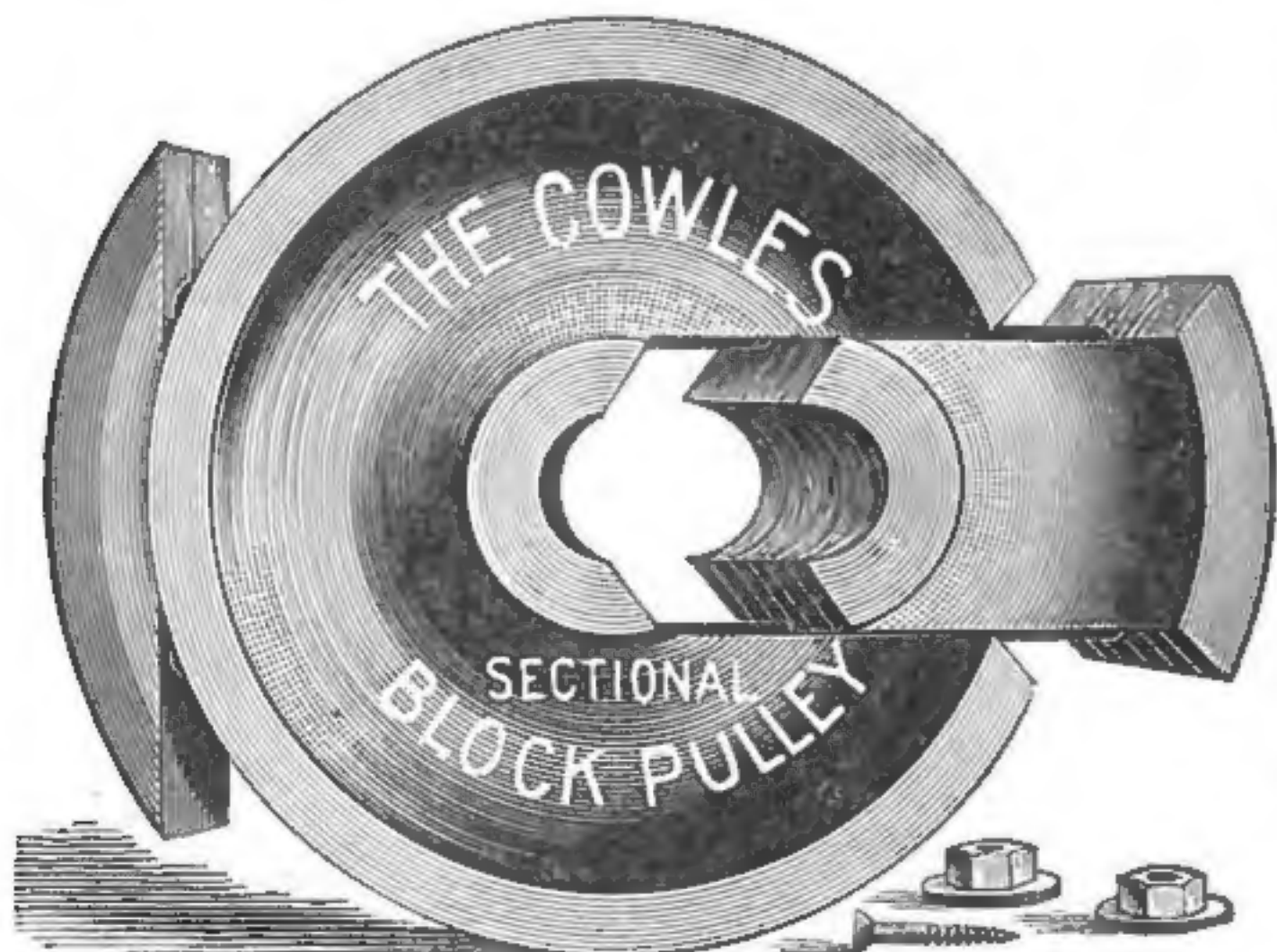


Web made of several layers glued together with grain crossing, and faced up on both sides. Iron flanges securely bolted to web. Rim put on after web has been trued up. Web and rim turned on inside and face, making perfect running pulley. Rim supported entire circumference. Positive self-gripping device for securing pulley to shafting, which is self-centering, and can not slip with wear.

A wooden rim pulley transmits from 30 to 50 per cent. more power with same belt than an iron one.

Two-thirds lighter than iron, bearings will wear longer and the expense for lubricants will be less.

Having solid web, there is no air resistance. The "Reliable" can be placed on shaft or position changed in one-fourth the time required with any other pulley.



EDWARD GERMAIN, SOLE MANUFACTURER, SAGINAW, MICH., U.S.A.



WATERPROOF WHITEWASH.—A waterproof whitewash is in use in Germany. The powder from 3 parts silicious rock (quartz), 3 parts broken marble and sandstone, 2 parts of burned porcelain clay and 2 parts freshly slaked lime, still warm, are mixed together. This forms a silicate if often wetted and becomes after a while almost like stone. It is applied quite quickly to a wall or other surface and allowed to dry one day. The next day it is covered frequently with water, which makes it waterproof.

GENERAL NOTES.

THE "great and prosperous colonies" of Australia seem to "prosper" better in incurring indebtedness than in any thing else. With a population of less than 4,000,000, they have national debts as follows: Victoria \$188,733,725; New South Wales \$222,476,745; South Australia \$95,892,750; Queensland \$149,105,250; New Zealand \$187,681,805; Tasmania \$20,536,850; Western Australia \$3,325,000. The grand total is about \$867,752,000, equal to over \$231 per head of population. Every one of the colonies named is still borrowing every borrowable dollar on the slightest excuse for borrowing, and the money lenders in Great Britain are beginning to question the expediency of lending any more money to such debt-ridden colonies.

POINTS IN MILLING.

RECENTLY an attempt has been made in England to bring about "single wheat" milling, that is, the grinding of single instead of "blended" wheats. The attempt seems to have failed and the British millers go on "blending" wheats for grinding, and the British bakers go on after them "blending" flours for baking. The English theory seems to be that no single wheat or flour is fit to use without being "blended."

HERE is an example of "blending" flours, brought out in the following question in a recent London technical examination: "You have the following flours at your disposal, all of the 1888 harvest:—

Hungarian 2nd or 3rd grade Patent at 33s. 0d. per sack.	
Spring American Patent.....	35s. 0d. "
Winter American Patent.....	35s. 0d. "
Azima Patent.....	33s. 0d. "
English Wheat, Patent.....	29s. 0d. "

You are required to produce from them bread to sell at 6½d. per quartern (4lb.) delivered. Being at liberty to make any selections you like from these flours, what mixtures would you employ respectively for your sponges and doughs? State also what weight of flour you would use in each stage. Bearing in mind the nature of last year's harvest, what number of 4-lb. loaves (stating what kind of bread you suppose to be made) would you obtain per sack? Work out the cost per sack of your flour mixtures, sponge and dough com-

bined, and subtract it from the value of the bread made, showing amount of gross profit per sack."

THE answer to this question by a "Prize Medalist" is as follows: "In answering this question there is great scope for differences of opinion. Experienced bakers of acknowledged distinction in their art would give widely different answers. The orthodox system of bread-making is to use one's strong flours in the sponge, reserving the weak and good-color ones for the dough stage, yet it was only yesterday I was talking to a man having Royalty on his books and doing over 150 sacks of flour per week, who uses weak country flour in the sponge, and makes his dough, which he gives a long time, with strong American bag flour. Having these five flours at my disposal, I should, provided these were of the quality I suppose them to be, according to prices given, probably use about one-fifth (or one bushel) of each of them to every sack of my mixture. In actual practice I should most likely vary their proportions a little according to various circumstances, but the following proportions of one-fifth each, the first two flours being used for the sponge, and the last three for the dough, will answer present requirements:

	£	s.	d.
1 bushel, or 1-5, or 56 lbs. Hungarian Patents 33s. per sack.....	0	6	7.2
" " " " Sp. American " 35s. "	0	7	0
" " " " Winter " 35s. "	0	7	0
" " " " Azima " 33s. 6d. "	0	6	8.4
" " " " English Wheat " 29s. "	0	5	8.6
	£1	13	1.2

In making crusty cottage loaves and fancy bricks the yield of these flours would not exceed 94 quarterns at the full weight of four lbs. each.

	£	s.	d.
94 quarterns at 6½d.....	2	10	11
Cost of flour mixture.....	1	13	1
Gross profit.....	£0	17	10

This amount of gross profit is fully high, as in practice I have frequently found a very fair average falls somewhere between 16s. and 17s. This must of course depend on the district in which one is trading, as there is no universal price for a standard quality of bread. I am acquainted with a business in a fashionable south-coast resort, which during its season about three years ago could show a gross profit, per sack, of nearly a sovereign. Some people would think Hungarian patents more suitable for doughing than sponging, and might prefer to use Azimas in the sponge."

CATARRH.

CATARRHAL DEAFNESS—HAY FEVER.

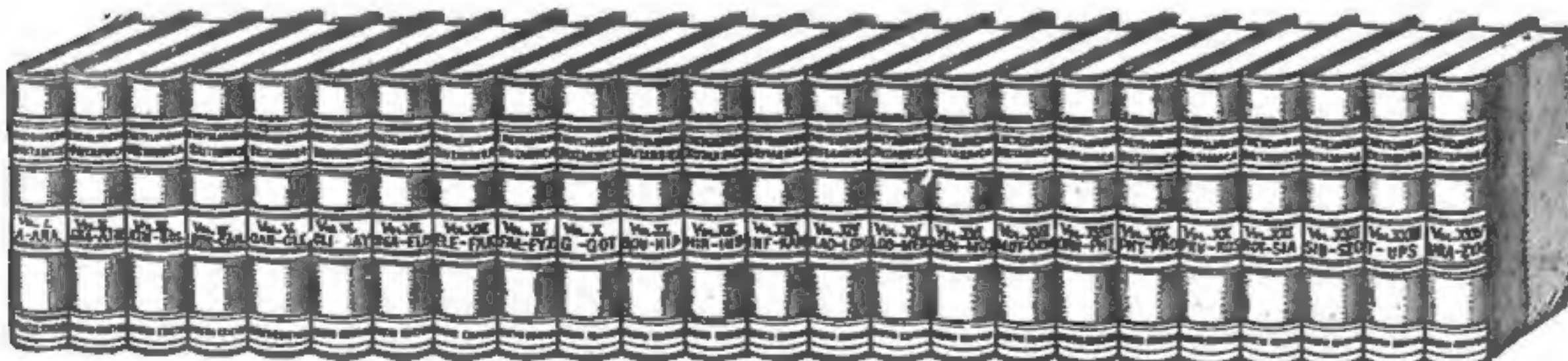
A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate*.

Sufferers from catarrhal troubles should carefully read the above.

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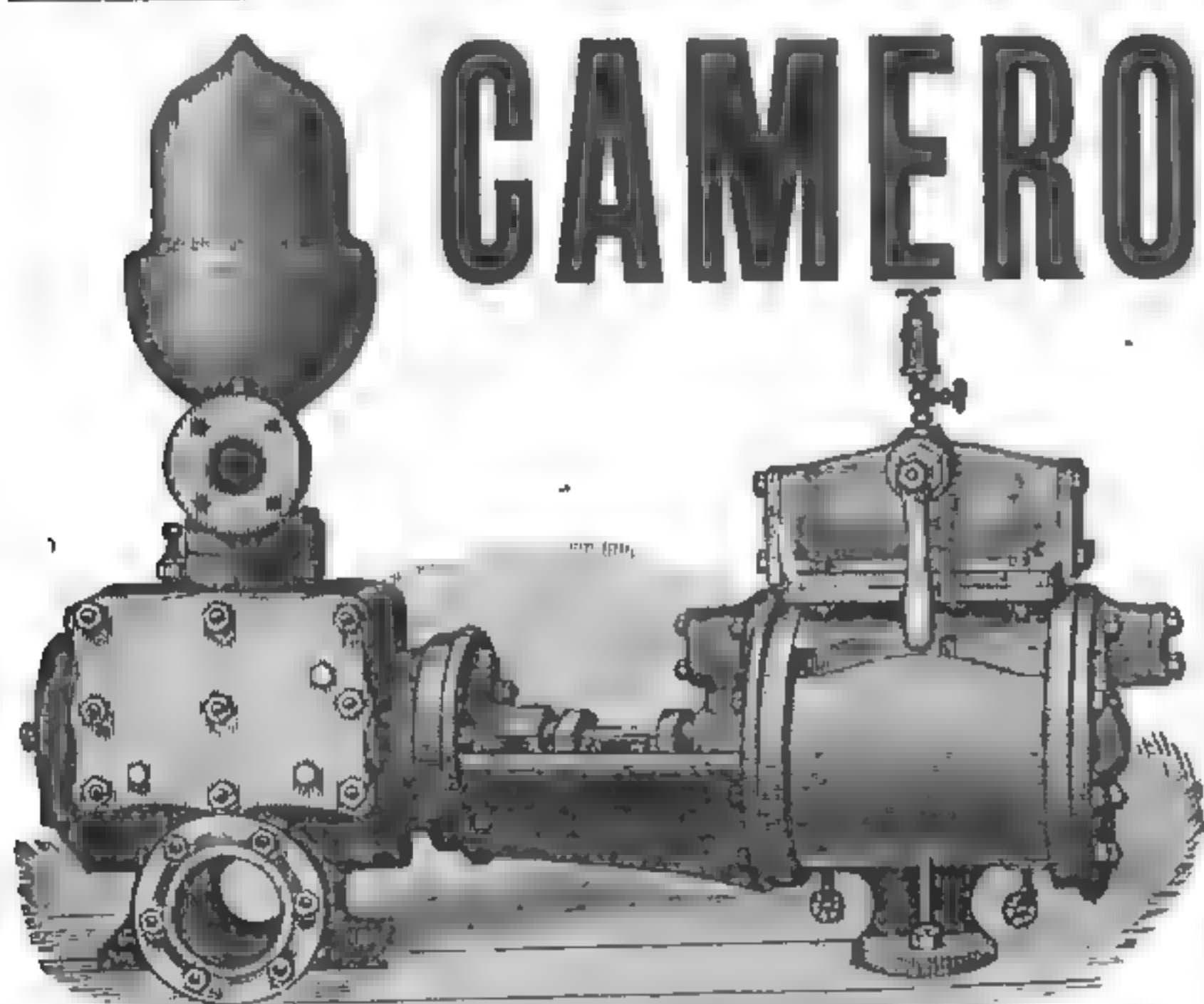
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THE STANDARD OF EXCELLENCE.

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"NO OUTSIDE VALVE GEAR."

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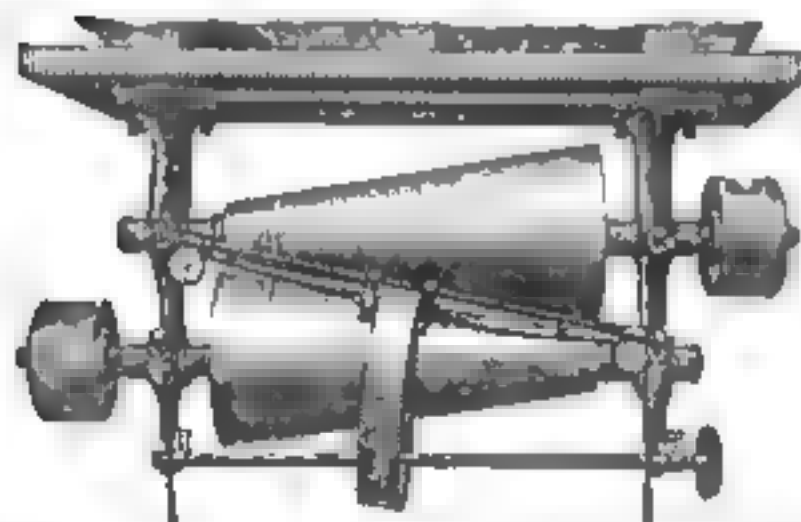
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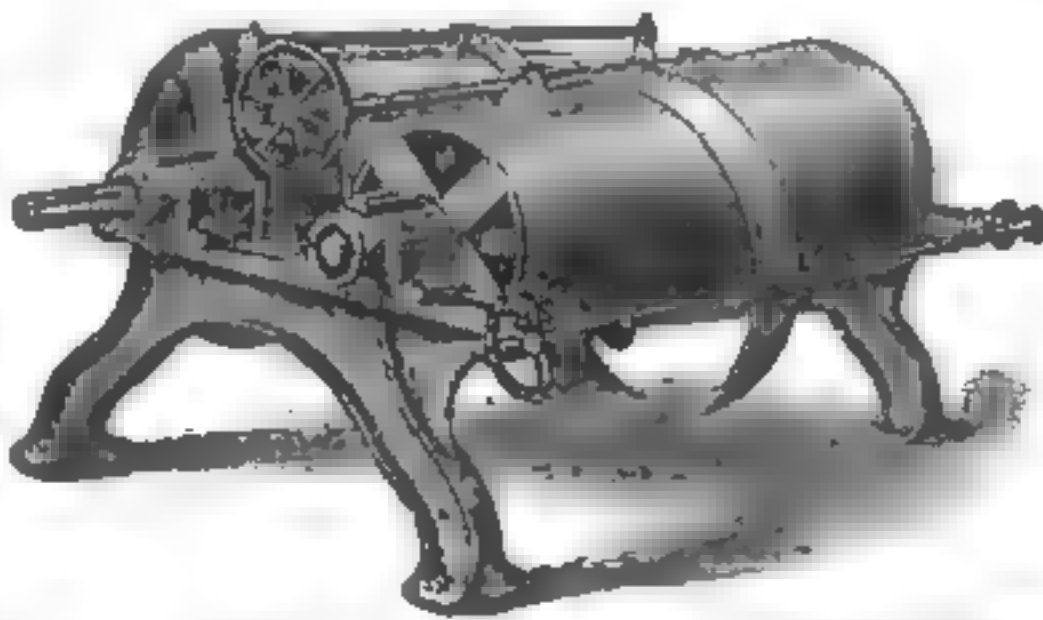
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"PATENTED."



This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is

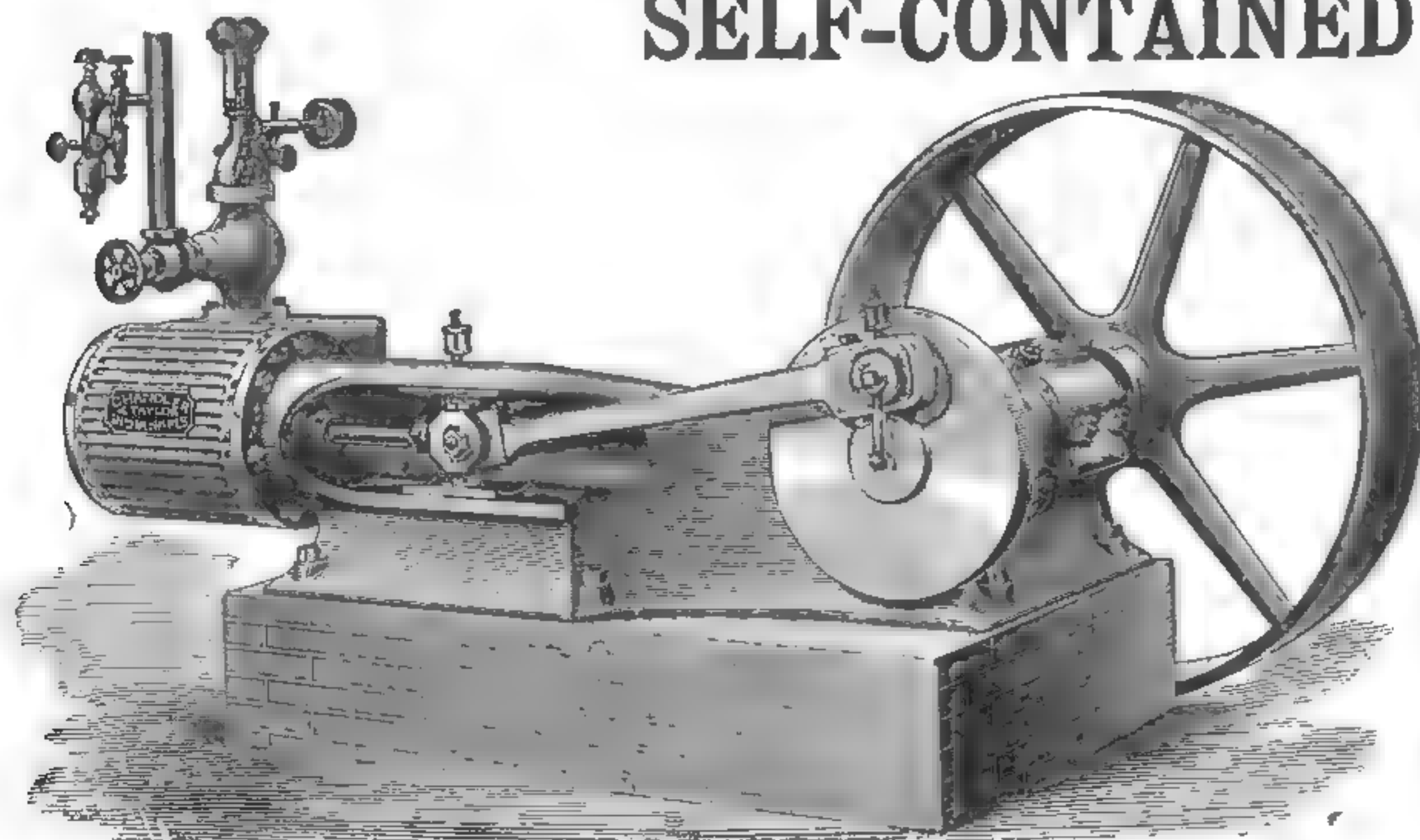


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AND TROUBLE
AND CASH

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PATENT
MANIFEST
SHIPPING
BLANKS SEND FOR
SAMPLE SHEET & PRICES
BARLOW BROS. GRAND RAPIDS, MICH.



SELF-CONTAINED STEAM ENGINES

Stationary or
Semi-Portable.

High Standard Maintained.
Prices Greatly Reduced.

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CATALOGUE NO. 32.

Chandler & Taylor Co.

Indianapolis, Ind.

Engines, Saw-Mills and Drain Tile
Machinery a Specialty.



Obion, Tenn., men project a flour-mill.
 Eckert Bros., Paragould, Ark., build a flour-mill.
 B. F. McGrew, Pulaski, Tenn., builds a roller mill.
 L. D. Rohrer, Cumberland, Md., enlarges his mill.
 Wm. Hatfield, Hampton, Ky., started a grist-mill.
 Wyatt Bros. bought the Madisonville, Ky., roller mill.
 W. L. Fain, miller, Resaca, Ga., wants corn-meal machinery.
 J. H. Walker & Co., Reidsville, N. C., improve their flour-mill.
 The Farmers' Alliance, Loudon, Tenn., will build a 200-barrel roller flouring mill.
 J. Fleigle & Sons, Arlington, Ky., want new machinery to place in their flouring-mill.
 M. Hamman and others, Addison, Ky., are organizing a stock company to build a flouring-mill.
 Miller, Case & Clausen, millers, New York, N. Y., dissolved, Miller & Clausen continuing the business.
 The Case Mfg. Co., Columbus, Ohio, have an order from C. Y. Kay, Alliance, Ohio, for 2 pairs of rolls.
 F. L. Herring, Finksburg, Md., is putting in 2 pairs of rolls, furnished by the Case Mfg. Co., Columbus, O.
 W. P. Hambaugh & Co., Ringgold, Tenn., have refitted their flour-mill and will build a grain-elevator.
 Holmes & Son, Winfield, Kans., have placed an additional order with the Case Mfg. Co., for 2 pairs of rolls.
 The Case Mfg. Co., Columbus, O., have an order from C. Farnham, Ashland, Oregon, for 1 special purifier.
 The Case Mfg. Co., Columbus, O., have an order from J. I. Smith & Bro., Circleville, O., for 2 scalping-reels.
 Putman & Son, Wilnot, O., are remodeling their mill and have placed their order with the Case Mfg. Co., Columbus, O.
 The Case Mfg. Co., Columbus, O., have an order from Paul Smith, Cropseyville, N. Y., for 2 additional pairs of rolls.
 W. B. Cockerline & Son, Grant's Pass, Oregon, are putting in 2 pairs of rolls, furnished by the Case Mfg. Co., Columbus, O.
 W. H. Golady, Fort Defiance, Va., is putting in 2 pairs of rolls and 1 purifier, furnished by the Case Mfg. Co., Columbus, O.
 The Case Mfg. Co., Columbus, O., have an order from A. P. Thurston, Rob Roy, Ind., for 4 pairs of rolls and other machinery.
 King & Berry, Lindsey, O., are putting in a bran-duster and flour-packer built and furnished by the Case Mfg. Co., Columbus, O.
 The Case Mfg. Co., Columbus, O., have an order from Okey & Sloan, Stafford, O., for rolls, purifiers, flour-dressers and other machinery for a full roller mill.
 The Case Mfg. Co., Columbus, O., have an order from J. L. Perringer, Washington C. H., Ohio, for 9 flour-dressers, 2 centrifugal reels, 3 purifiers, flour-packer and 1 bran-duster.
 The Spaulding Milling Co., Spaulding, Neb., have placed their order with the Case Mfg. Co., Columbus, Ohio, for all the necessary machinery for a full roller mill on the Case system.
 R. T. Mills, Cardington, O., has placed his order for a full line of rolls, scalpers, flour-dressers, purifiers and other machinery for a full roller mill in the hands of the Case Mfg. Co., Columbus, O.
 H. H. Beck & Co., Reno, Nev., whose mill was burned some time ago, have rebuilt and placed their order for a full line of rolls and other machinery for a complete roller mill, with the Case Mfg. Co., Columbus, O.
 The Case Mfg. Co., Columbus, O., have an order from D. E. Savank & Co., Aumsville, Oregon, for 8 pairs of rolls, 4 flour-dressers, 1 centrifugal, 1 special purifier and other machinery for a full roller mill on the Case system.

The J. B. Allfree Company have taken contracts for complete mills since their last report as follows: John Jenny, Hartington, Nebraska, 50 barrels; P. P. Huffman, Church Hill, Ky., 40 barrels; J. Ritterskamp & Son, Freelandville, Ind., 30 to 40 barrels; W. B. Ray & Co., Kuttawa, Ky., 50 to 60 barrels; B. F. Ditmire, Rochester, Ind., 50 barrels; Jamestown Milling Company, Jamestown, Ind., 50 barrels.

Messrs. H. W. Stone & Co., Morris, Minn., in a communication to Messrs. Westinghouse, Church, Kerr & Co., of Chicago, say: "The 8 & 13 x 8 Compound Engine we bought from you is now running day and night. We are not only satisfied with it, but are also very much pleased with it. On a test run of ten hours, with your Mr. Finch firing, we used but one cord of basswood, equal to one-half cord of maple, grinding in that time 25 barrels of flour. This we consider good economy from any engine using steam from a common tubular boiler and without condenser; but had our mill been equipped with the light-running machinery now commonly used in mills of the size of ours, we are confident the flour output would have been at least one-third greater with the same amount of wood. Continue to send into this State such engines as you have sent us, and such men as Mr. Finch to start them, and your trade will increase rapidly in this section."

The Case Mfg. Co., Columbus, O., have since the destruction of their shops by fire, in May last, furnished the machinery for the following full roller mills, all of which are supplied with their celebrated "Inter-Elevator Flour Dressers," roller and other machinery: Prazier & Bowser, Saxonburg, Pa.; J. Q. A. Vale, Vales Mills, Ohio; Peter Snyder, Manlius Station, N. Y.; T. J. Elam, Murfreesboro, Tenn.; E. Keely, Dyersburg, Tenn.; M. D. Brown & Son, Bluffton, Ind.; Hill & Bradley, Savannah, N. Y.; Fisher, Polly & Co., Wauneta, Neb.; G. W. Hindman, Holidays Cove, W. Va.; O. C. Sheppard, Medina, Ohio; A. H. Van Riper, Casopolis, Mich.; B. Beck, Beck's Mills, Ohio; Barkhurst & Craven, Mt. Pleasant, Ohio; Sternberg Mill & Elevator Co., Boulder, Colo.; Chaney & Carney, Littleton, W. Va.; J. D. Tarrant & Son, Newberg, Oregon; G. M. Wrightsman, Walnut Grove, Mo.; J. C. Schwartz, Buena Vista, Colo.; D. K. Hood & Son, Jackson C. H., W. Va.; P. C. Young, Wellsville, Ohio; H. H. Beck & Co., Reno, Neb.; Charles Anding, Winona, Minn.; Vigo Mill Co., Vigo, Ohio; Aiken & Cline, Yellow Springs, W. Va.; Charles Holdoffer, Kohoka, Mo.; J. E. Vannatta, Ithaca, N. Y.; Wm. Bartley & Son, Bartley, N. Y.; Spaulding Milling Co., Spaulding, Neb.; Diehl & Co., Mowrystown, Ohio; Frank Ladd, North Pembroke, N. Y.; Robb & Kelley, Talmage, Mo.; D. K. Swank & Co., Aumsville, Oregon; Chase & Shinn, Chase, W. Va.; Putman & Son, Wilnot, Ohio; Oblinger & Spiery, Lewisville, Ohio. They have recently moved into their new shops, which are equipped with all the latest improved machinery for the manufacture of all kinds of special milling machinery. They have more than doubled their capacity and are in shape to take care of all orders promptly.

Scribner's Magazine for January begins the fourth year and seventh volume with the promise that during the current year it will follow its well-approved course of printing articles of interest in themselves, by writers who really have something to say, and of aiming that great variety shall be secured rather than that any single undertaking shall monopolize its space. The contents are: "Dam Across the Bear Valley, San Bernardino County, Cal." Frontispiece. From a photograph; engraved by L. M. Van Ness. "Water-storage in the West," by Walter Gillette Bates. "An Old-fashioned Love-song," by H. C. Bunner. "The Paris Exposition"—Notes and Impressions, by W. C. Brownell. "Atonement," by Edith M. Thomas. "Tripoli of Barbary"—African Studies. I., by A. F. Jacassy. "The Ballad of Tonio Manzi," by Graham R. Thomson. "Expiation," Chapters I-II, by Octave Thanet. (To be continued.) Illustrations from drawings by A. B. Foost. "In the Valley," Chapters XV-XVII, by Harold Frederic. (Begun in September, 1889, to be continued.) "The Beauty of Spanish Women," by Henry T. Finck. "Electricity in the Household," by A. E. Kennelly, Chief Electrician, Edison Laboratory. "The Lost Plant," A Consular Experience, by John Pierson. "The Toddsville Raffle," by Edgar Mayhew Bacon. "The Point of View," The Barye Exhibition, Thackeray's Life, Social Life in Print, The French as Artists.



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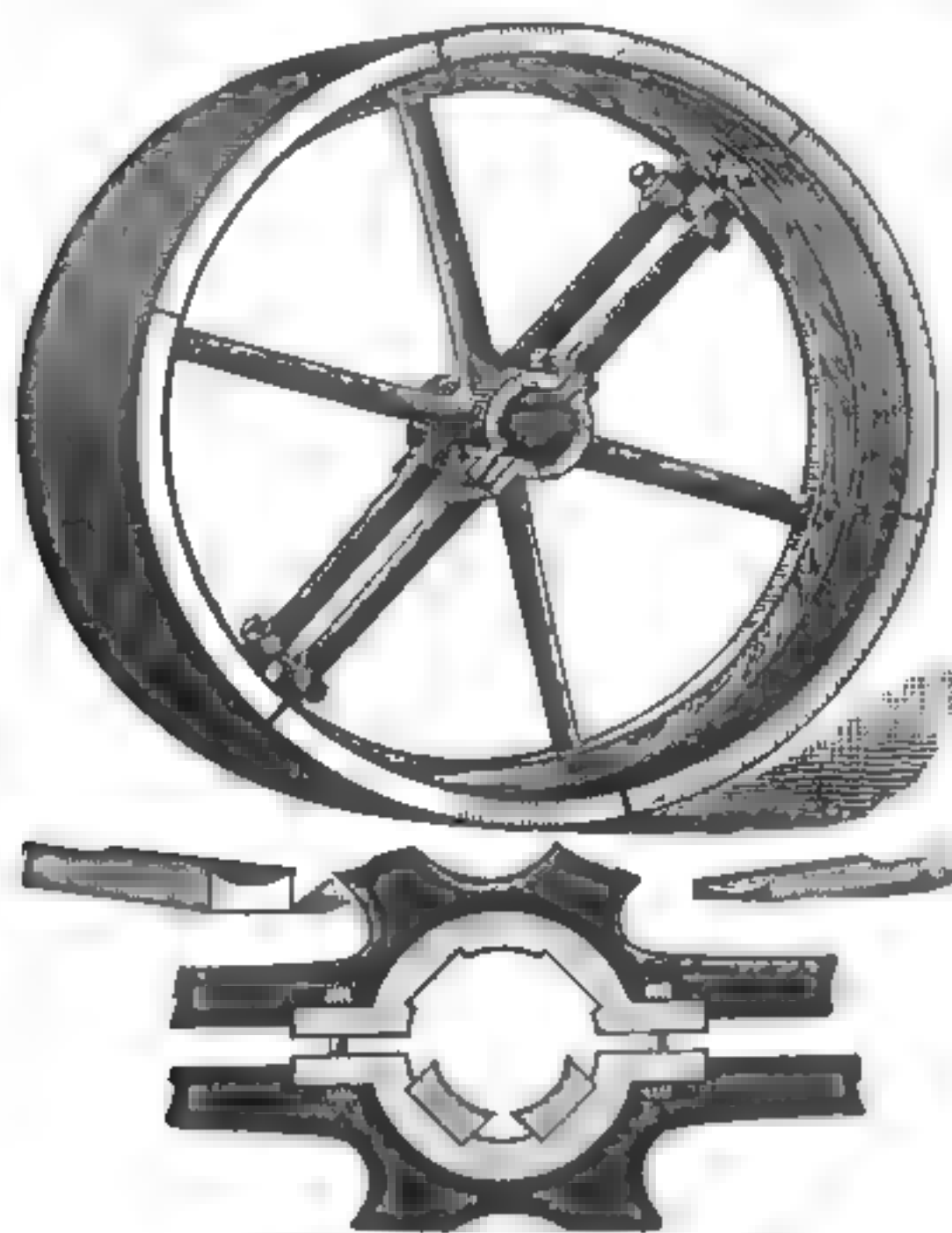
New York,



THE BEST ARE THE CHEAPEST.

MILLERS' FLOUR SACKS A SPECIALTY.

THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.



BIRD & CRANE MFG. CO., KALAMAZOO MICH.

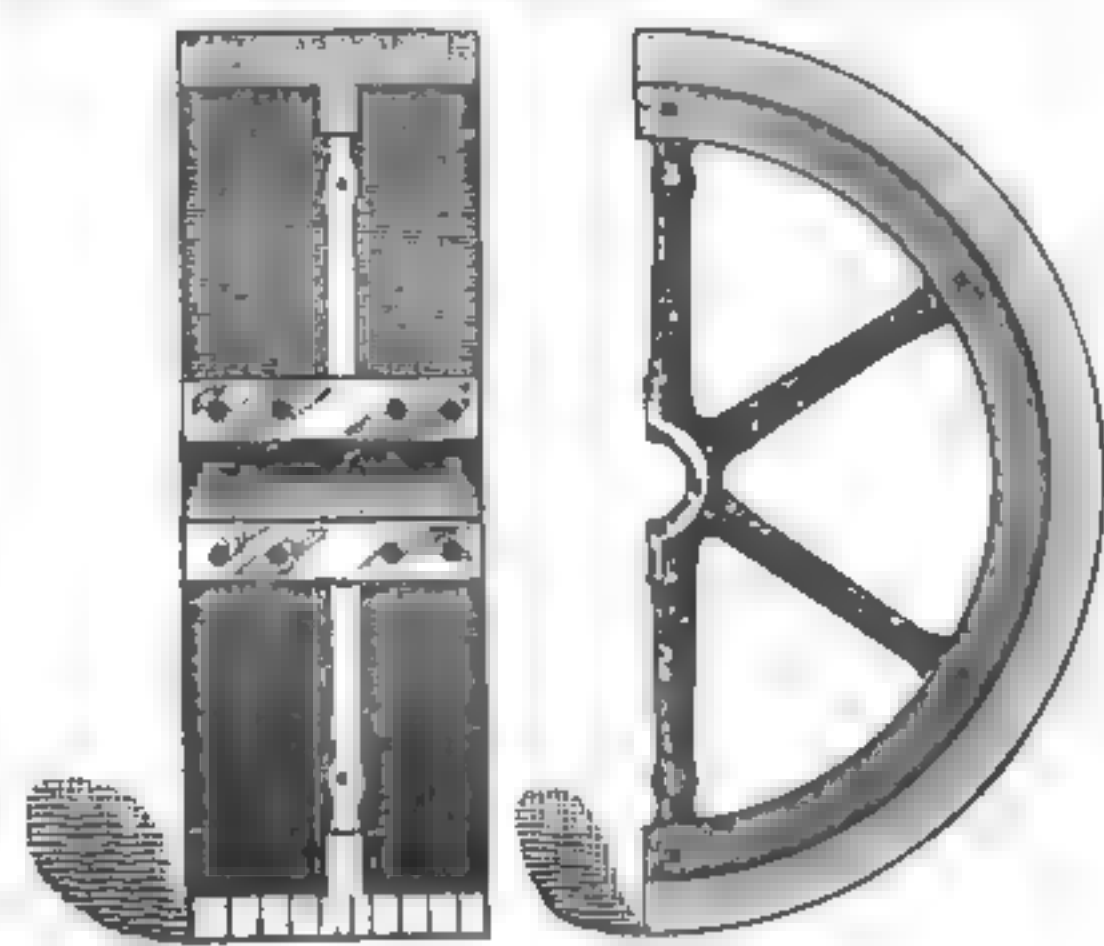
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Wood Split Pulleys

WOOD RIM WITH IRON ARMS.

The Best Pulley on Earth!

Is very easily and quickly adjusted to Shaft. Has Patent Iron Bushings Interchangeable, to Fit Different Diameters of Shafts. Has FOUR or SIX Bearings on Shaft. This fastening never slips. Every Pulley strongly built and perfectly balanced.



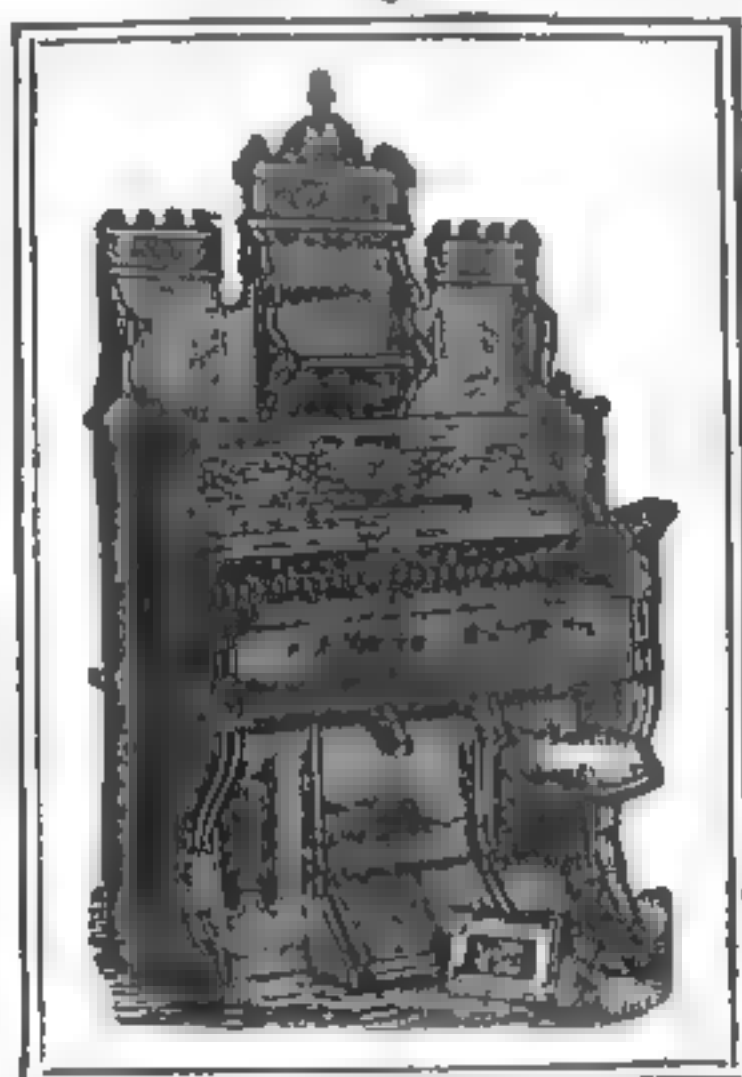
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is allus a-makin' change, a-buyin' ob experience."

The man who does not think that he "Knows It All" about

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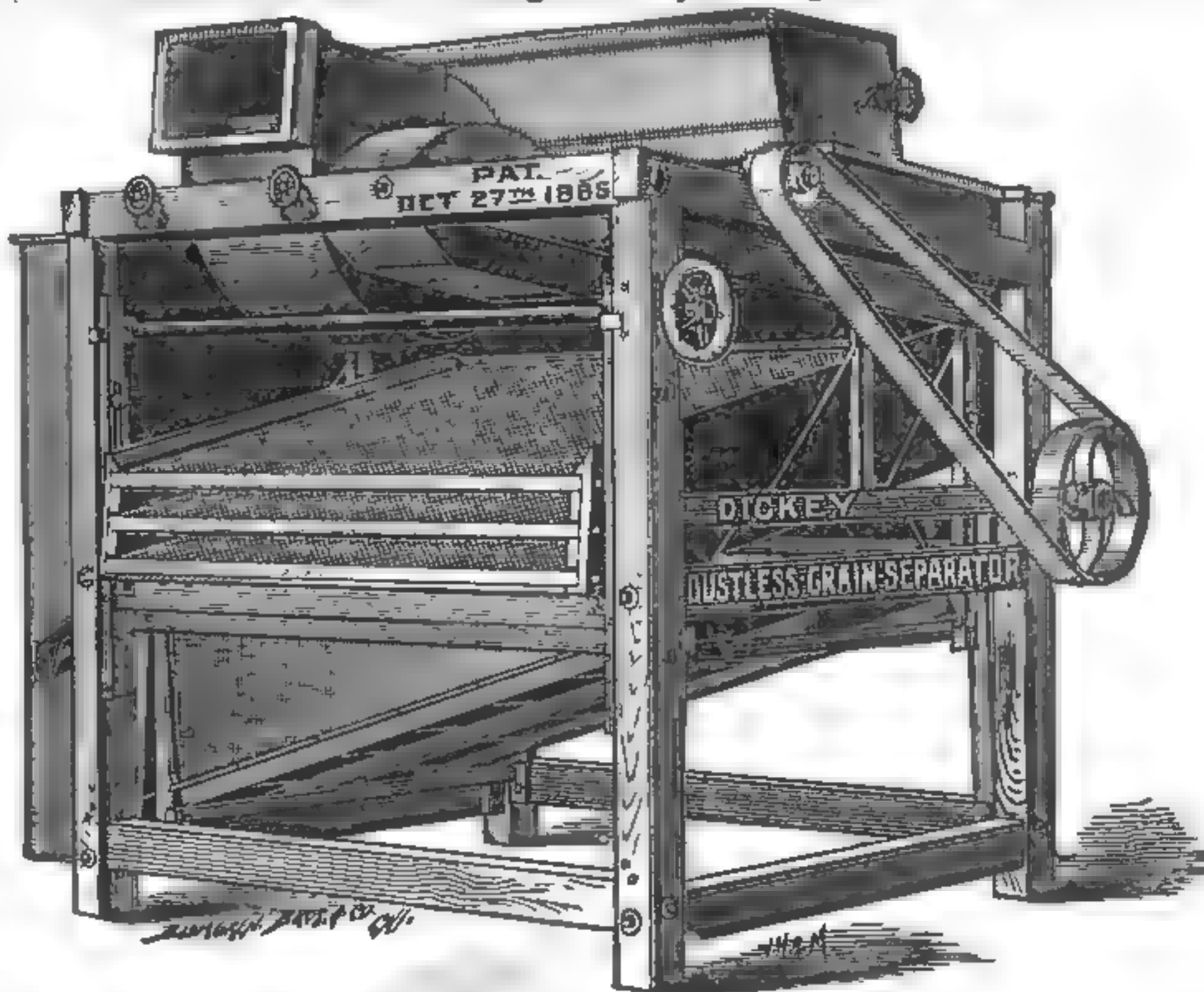
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The Cincinnati Corrugating Co.

DICKEY DUSTLESS GRAIN AND FLAX SEPARATOR

This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.



WE CLAIM FOR IT SUPERIORITY.

WE CLAIM FOR IT SUPERIORITY.

We claim for it Superiority over ever, using of the kind made, in simpleness, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

A. P. DICKEY MANUFACTURING CO. Successors to **Dickey & Pease, RACINE, WIS.**

EUROPEAN ECHOES.

SAYS the London "Miller" of December 2: The past few weeks have seen heavy arrivals of American flour so far as London is concerned, but it is satisfactory to find that, generally speaking, these consignments have by no means caused the uneasiness that analogous shipments would almost certainly have occasioned two years ago. To tell the truth, American flour is now far from being a name with which flour factors or any one else can conjure. This may be partly owing to the fact that so many of the best known Trans-atlantic brands have of late years exhibited a remarkable falling off in quality, a phenomenon to which Mr. Jago drew special attention in the course of his lecture at the Society of Arts last Monday evening; but another potent factor in the comparative indifference now manifested to shipments of flour across the Atlantic is, doubtless, the steady and visible improvement in British roller flour. The British roller miller seems now fairly to have mastered his new tools, and the consequence is that he succeeds in producing an article which can hold its own, and sometimes a little more, with American brands. That this is no idle speculation may be tested by the reports of some of the best known flour merchants on Mark Lane, who declare that, with the exception of the metropolis and some counties of the south of England, they find but little custom for American flour.

REVIEWING the conditions of the Australasian wheat crops, the London "Miller" of December 2 says: Altogether, the prospect is magnificent. The harvest has already begun in Queensland, where, however, but little wheat is grown, and that not of the quality which English millers care for. The railways are regarded as unequal to the strain of moving the new grain to the coast in the great wheat-growing regions of Victoria and South Australia. Storage is also a vexed point alike on the farm, at the railway depots and at the ports. While the railway question may lead to delay in shipments, any difficulties of storage should expedite exports, which solve the difficulty of the surplus in the best of all possible manners. The new crop is speculatively offered at 35s. 6d. per quarter, a price which some English millers seem not indisposed to pay direct. We fancy indeed that the price is one at which a good bargain will be effected by the purchaser, for the total supplies available are likely to be largely drawn upon by the Cape and by France, both regions which display marked favor for Australian wheat. The crop may be provisionally reckoned as follows:

	Acreage.	Yield, bushels.
1880-81.....	3,376,000	31,568,000
1881-82.....	3,361,000	29,675,000
1882-83.....	3,434,000	31,673,000
1883-84.....	3,672,000	45,014,000
1884-85.....	3,640,000	37,078,000
1885-86.....	3,663,000	36,630,000
1886-87.....	3,161,000	25,238,000
1887-88.....	3,200,000	33,400,000
1888-89.....	3,520,000	24,640,000
1889-90.....	3,600,000	39,600,000

The wheat area is thus divided:

Victoria.....	1,090,000
New South Wales.....	300,000
Queensland.....	10,000
South Australia.....	1,900,000
West Australia.....	25,000
New Zealand.....	250,000
Tasmania.....	25,000
Total.....	3,600,000

SAYS the London "Miller" of December 9: America is not aggressive in seizing the European trade this season. Supplies come from the United States in a halting sort of way. Quantity is not large, quality is only mediocre, and prices are just a little above, instead of being below, those of other countries. Last week's weather was rigid with wintry severity over Europe. Frost and snow were as common as in November had been soft winds and a comparatively genial temperature. German railways and some of our English lines were blocked by snowfall, and vegetables jumped up in price 100 per cent. for some sorts. The price of wheat was unaltered, nor did demand augment to any important extent.

The chief effect of the weather was upon public health, not upon the markets for wheat and flour. * * * * America appears to neglect the custom of the United Kingdom at the present rates offered for winter wheat. Nor do the California wheat shippers seem disposed to abate value. Very little trade is passing except maize, for the past week's flour shipments were relatively small. However, this season's total exports still keep larger from Atlantic ports than the very limited ones of a year ago. The Californian wheat afloat, 905,000 quarters, compares with 1,238,000 quarters in 1888. Evidently from the present aspects of trade in the United States, the English markets are not likely to be disturbed by any sudden changes in New York, Chicago or San Francisco. India works slowly at the terms Europe offers for wheat and asks present terms for the prospective new crop supplies, always allowing about 1s. per quarter superior value for new samples. No surprises are threatened from this quarter. Russia naturally stiffens under the actual blockade of winter and through having the command of our custom and that of Southern France and of Germany for its reduced surplus supplies. Moreover, for a small crop of rye, Russia has buyers at a higher price relatively than wheat. Australia may possibly cheapen wheat in the spring campaign, but as there appears to be no other country to compete with, it is unlikely Australia shipments will be offered much below those of Chili or other Pacific white wheat sellers. The African demand is likely to intercept many shipments.

FOLLOWING is the official statement of the imports of wheat grain and flour into the United Kingdom, with the source of supply, for the month and the 11 months ended November 30, for the past three years:

	Month ended 30th November.		
	1889. Cwts.	1888. Cwts.	1887. Cwts.
WHEAT—			
Russia.....	2,185,999	2,548,978	1,212,869
Germany.....	165,765	354,016	295,370
France.....	9	328	26,855
Turkey.....	47,879	26,229	—
Roumania.....	676,416	290,817	116,485
Egypt.....	1,056	17,816	3,769
United States—Atlantic.....	551,783	36,422	689,716
" —Pacific.....	751,461	387,190	650,777
Chili.....	—	60,696	66,944
British India.....	763,490	1,031,851	428,429
Australasia.....	14,939	277,752	79,074
North America—British.....	233,691	11,491	344,227
Sundries.....	213,666	225,757	76,674
Totals.....	5,606,154	5,275,343	3,901,216
FLOUR—			
Germany.....	67,930	212,892	67,785
France.....	12,197	8,614	11,434
Austrian Territories.....	162,781	132,073	136,807
United States.....	1,233,144	637,155	1,123,377
North America—British.....	279,029	86,009	126,442
Sundries.....	21,167	37,434	18,568
Totals.....	1,776,248	1,114,177	1,484,413
Eleven Months ended 30th November.			
	1889. Cwts.	1888. Cwts.	1887. Cwts.
WHEAT—			
Russia.....	19,820,210	19,006,467	3,577,246
Germany.....	2,393,747	2,884,144	1,191,367
France.....	126,440	16,627	31,761
Turkey.....	621,487	101,973	1,949
Roumania.....	2,286,833	1,075,213	267,062
Egypt.....	321,210	713,181	161,057
United States—Atlantic.....	4,455,026	6,217,570	20,042,463
" —Pacific.....	10,875,357	7,898,797	8,700,515
Chili.....	572,953	1,399,870	2,003,060
British India.....	8,320,500	7,261,805	8,076,063
Australasia.....	1,401,260	1,917,734	1,346,404
North America—British.....	1,108,301	1,089,080	3,825,381
Sundries.....	1,320,615	2,319,479	1,251,281
Totals.....	53,623,939	51,901,940	50,775,609
FLOUR—			
Germany.....	1,083,450	872,048	496,963
France.....	79,389	86,648	79,460
Austrian Territories.....	1,654,138	1,614,745	1,199,421
United States.....	8,911,907	11,981,543	13,655,037
North America—British.....	1,060,641	765,421	879,316
Sundries.....	353,602	376,469	131,899
Totals.....	13,143,127	15,726,874	16,442,096

A Boston, Mass., dispatch of Dec. 24 says: The published statement in yesterday's papers that the C. C. Washburn flouring-mills, of Minneapolis, had been sold to an English syndicate is this morning contradicted by a telegram from the C. C. Washburn Crosby Company, of Minneapolis, proprietors of the mills, to their Eastern agents.

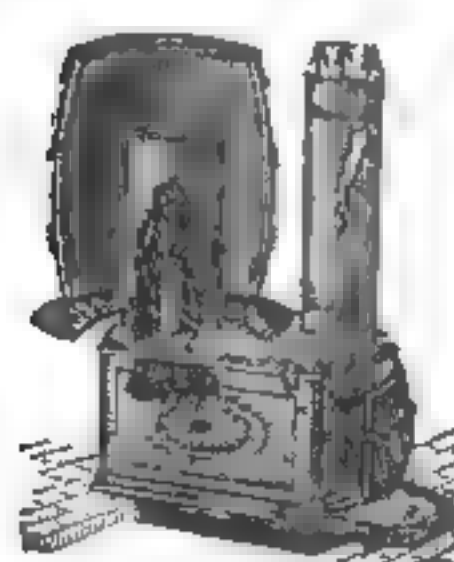
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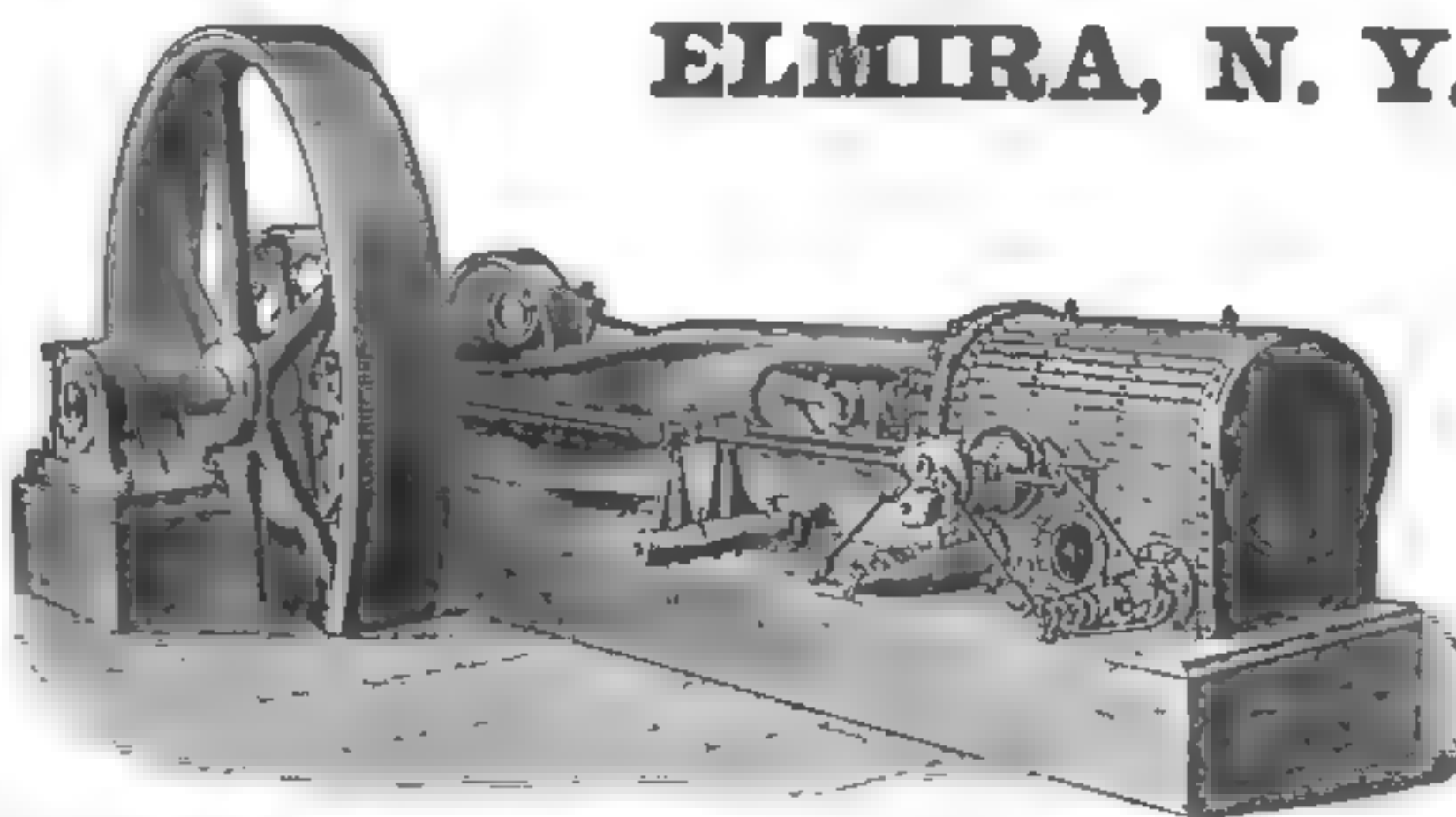
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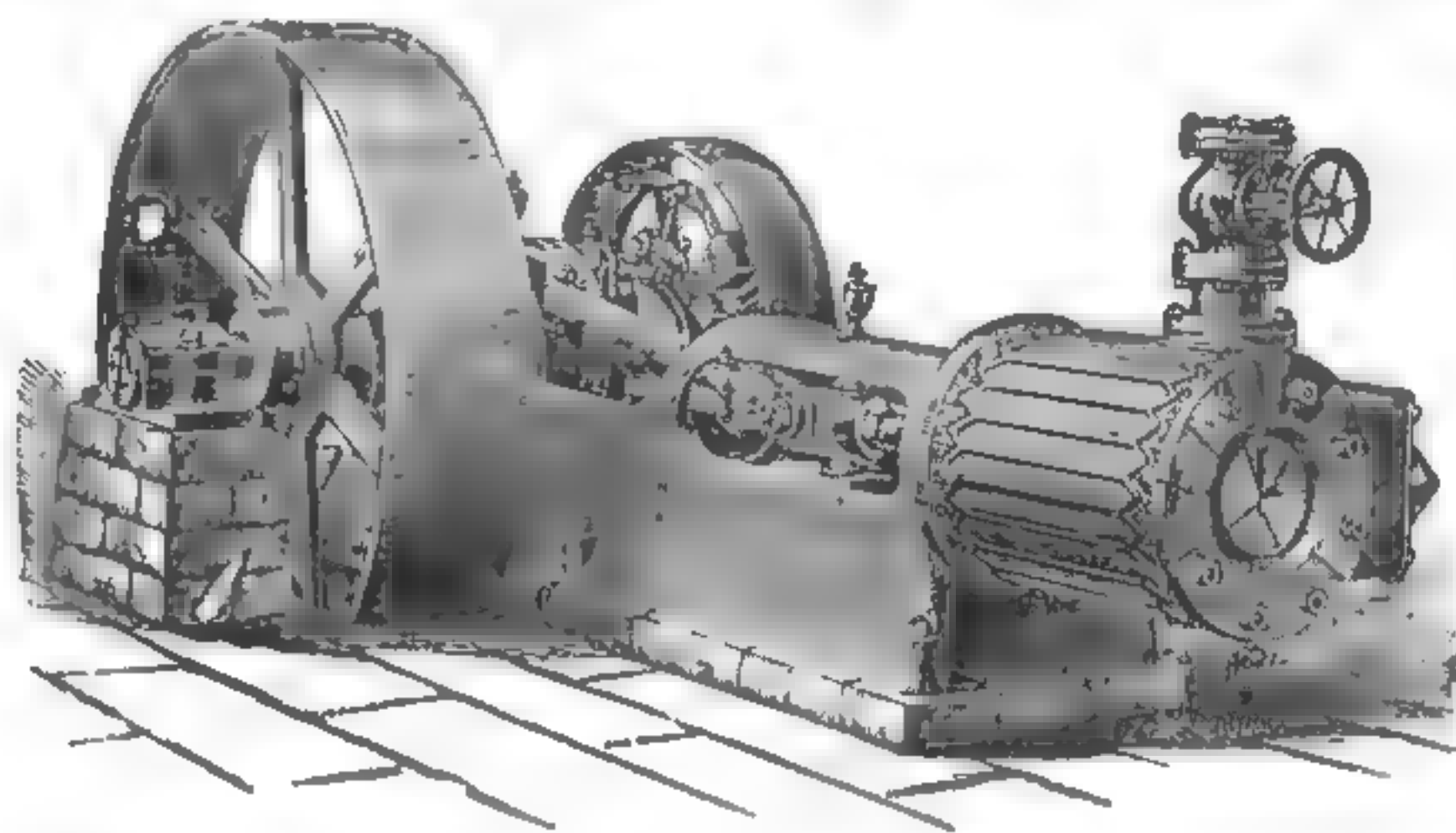
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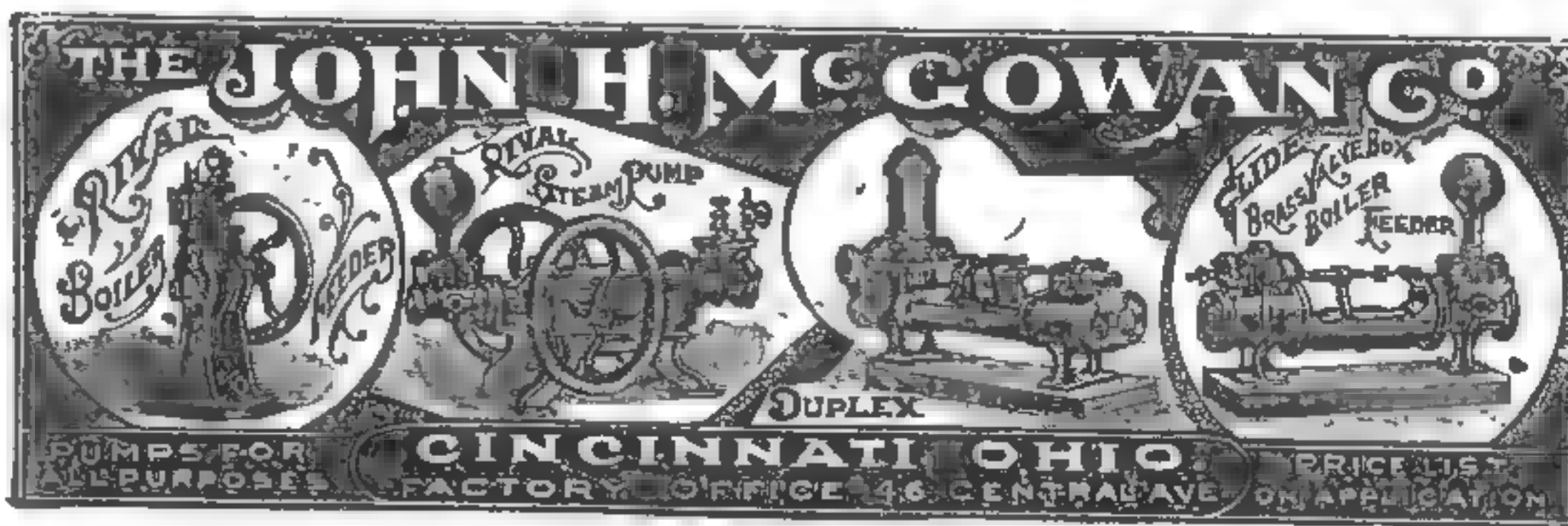
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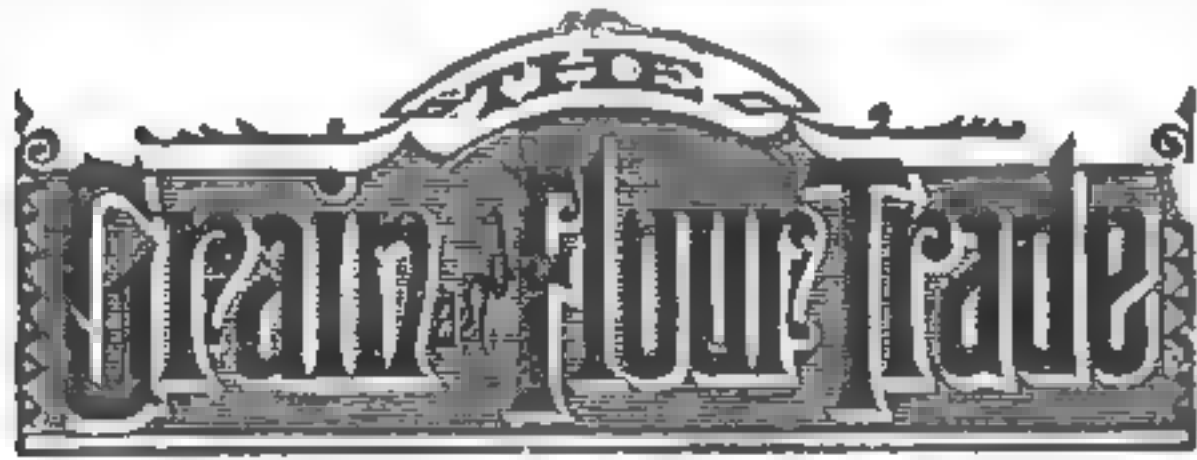
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OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., Dec. 28, 1889.

Friday of last week was a day of dull and weak markets generally, on long and foreign selling, in spite of better cables and small receipts. In New York December wheat closed at 85c., with Atlantic port receipts 38,033, exports 106,721, and options 1,500,000 bushels. December corn closed at 42½c., with receipts 178,000, exports 97,949, and options 1,250,000 bushels. December oats closed at 28½c., with receipts 173,603, exports 52,624, and options 175,000 bushels. Wheat flour was in improved export demand for both No. 1 spring wheat and bakers' extra, and also for spring patents for the United Kingdom, at full old prices. Receipts were 13,117 sacks and 28,392 barrels, and exports 67,045 sacks and 48,515 barrels. The minor lines were quiet.

Saturday brought easy opening markets, closing steady to firm on good buying and better export demand. December wheat closed at 85½c., with receipts 65,685, exports 78,699, and options 750,000 bushels. Wheat receipts at all interior points for the week were, 1,950,000 bushels, against 3,011,000 a week ago and 1,435,000 a year ago. December corn closed at 42½c., with receipts 257,468 and exports 232,850 bushels. Trade was quite active. December oats closed at 28½c., with receipts 87,040, exports 47,117, and options 170,000 bushels. Wheat flour was in fair demand for winter wheat straights for the West Indies, and for bakers' extras and No. 1 spring for local and European trade, with low grades steady to firm on fair local demand and light supplies. Receipts were 8,874 sacks and 53,095 barrels, and exports 9,915 sacks and 35,007 barrels. The minor lines were featureless.

Monday brought weak, active and lower markets on free western and southwestern movements and small demand. December wheat closed at 85½c., with receipts 108,145, exports 18,027, and options 4,000,000 bushels. December corn closed at 41c., with receipts 428,230, exports 117,021, and options 2,250,000 bushels. December oats closed at 28½c., with receipts 189,557, exports 35,927, and options 300,000 bushels. Wheat flour was steady for local trade on spring patents, which ruled weak generally for several weeks past, and which are now in better demand. On many lines holders and sellers are 10@15c. apart. Receipts were 13,395 sacks and 39,242 barrels, and exports 8,763 sacks and 27,728 barrels. The minor lines were featureless. The visible supply in the United States and Canada was:

	1889.	1888.	1887.
	Dec. 21.	Dec. 22.	Dec. 24.
Wheat.....	34,274,799	37,213,583	43,231,009
Corn.....	5,856,957	6,327,430	5,380,409
Oats.....	4,853,277	8,010,025	6,091,274
Rye.....	1,251,630	1,613,641	279,679
Barley.....	2,519,933	2,424,498	3,600,806

Tuesday brought long selling out before the holidays and large western movement, making the markets active and lower. December wheat closed at 85½c., with receipts 40,183, exports 65,423, and options 2,000,000 bushels. December corn closed at 40½c., with receipts 472,085, exports 56,113, and options 2,500,000 bushels. December oats closed at 28½c., with receipts 240,905, exports 107,505, and options 150,000 bushels. Buckwheat grain was nominally 35@45c. Rye grain was dull and weak at 55@58c. for No. 2 Western, 58@60c. for No. 1 State and Canada, and 53@55c. for ungraded in car lots on tracks. Barley was neglected at the nominal rates of 53c. for 2-rowed, 56@58c. for 6-rowed, 58c. for No. 2 Canada, and 60c. for extra No. 2 Canada. Malt was nominally as follows: Country-made old 70@85c.; new do, 80@85c.; two-rowed state old 67½@72½c.; new

do, 70@75c.; six-rowed old 67½@75c.; new do, 75@80c.; Western old 45@72½c.; new do 55@80c. Mill-feed was dull and unchanged, but still irregular at old range of prices. Quotations: 55@65c. for both extremes on 40, 60 and 80-lb.; 75@82½c. for 100-lb. and 70@75c. for rye.

Wheat flour was quiet, with a better demand for spring patents and shipping springs. Trade was not large. Receipts were 27,190 sacks and 45,499 barrels, and exports 13,865 sacks and 24,654 barrels. The quotations for the day follow:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.55@1.65	\$....@....
Fine.....	1.80@2.05	1.95@2.20
Superfine.....	2.05@2.30	2.30@2.65
Extra No. 2.....	2.30@2.60	2.55@2.85
Extra No. 1.....	3.00@3.20	3.25@3.75
Clear.....	3.05@3.35	3.40@3.50
Straight.....	3.80@4.20	4.15@4.70
Patent.....	4.50@4.75	4.70@5.10

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.70@2.00	\$....@....
Fine.....	2.00@2.10	2.10@2.40
Superfine.....	2.25@2.45	2.25@2.50
Extra No. 2.....	2.40@2.70	2.50@2.80
Extra No. 1.....	2.70@3.70	2.85@3.60
Clear.....	3.25@3.60	3.55@3.85
Straight.....	3.85@3.90	3.95@4.30
Patent.....	4.10@4.30	4.35@4.75

CITY MILLS.		
W. 1 grades.....	4.30@4.40	
Low grades.....	2.40@50	
Patents.....	4.80@5.40	

Rye flour was flat at \$3.15@3.25. Buckwheat flour was neglected at \$1.50@1.70. Corn products were quoted as follows; 78@80c for coarse meal in bags; fine yellow and white 85@93c; Brandywine \$2.65; Western and Southern \$2.50 @2.60.

Wednesday was a holiday and nothing was seen or heard of the bulls and bears for the day.

Thursday brought little change in market conditions. December wheat closed at 85½c., with receipts 23,650, exports 16,026, spot sales 4,800, and options 890,000 bushels. December corn closed at 39½c., with receipts 153,000, exports 2,335, spot sales 207,000, and options 2,696,000 bushels. December oats closed at 28½c., with receipts 15,000, spot sales 61,000, and options 440,000 bushels. Wheat flour was dull and heavy. Receipts 32,017 packages, and sales 16,625 barrels. The other lines were quiet and featureless.

BUFFALO MARKETS.

WHEAT—The market for spring wheat is strong, although sales are light. No. 1 hard is firmer at 90½c; 10,600 bu No. 1 Northern sold at 87½c, and some more sold later at 87½c. the market closing firm at that price. No. 2 red winter is held at 85c and No. 2 white at 78c, with no sales reported. CORN—The market is quiet at 85½c. for new No. 2 mixed, and 35c for No. 3 do. No. 3 yellow is held at 36½c. Some old No. 2 corn was sold to-day at 38c. OATS—No. 2 white oats are offered at 27½c. and No. 2 mixed are held at 26c. The market is quiet at these prices. RYE—Quotations are nominal at 53c on track, but little is doing. BARLEY—The market is reported as dull as ever. Canada is quoted at 60@65c for No. 1; and 53@55c for No. 2. State is nominal at 88@50c. OATMEAL—Akron, \$6.00; Western, \$5.75 per bbl.; rolled oats, in cases, 72 lbs., \$3.25. CORNMEAL—Coarse, 80@85c.; fine, 85@90c.; granulated, \$1.50 per cwt. MILLFEED—City-ground coarse winter, \$11.00@11.50 per ton; fine do, \$11.00@11.50; finished winter middlings, \$13.00@14.50; coarse spring do, \$11.50@12.00.

According to a Winnipeg, Manitoba, dispatch of December 23, the Ogilvie Milling Company, the largest milling organization in Canada, has secured a corner on all wheat in the province of Manitoba and the northwest territories, amounting to about 4,000,000 bushels. It is an open secret that the firm secured a pointer from the Dominion Government that the duty on flour would be increased at the pending session from 50 cents to \$1 per barrel. The Ogilvies have large mills in the northwest and will manufacture all the grain. Their deal cuts a lot of other milling companies out of sufficient wheat to keep going, and in consequence wheat has bounced up to 80 cents and over in the country. The price paid by Ogilvie was within 1 cent of

what Duluth wheat at present prices could be laid down here, for there is not within 5,000,000 bushels of the surplus expected in the province when the harvest was reaped.

J. Mowdy's grist-mill, Greenville, Tex., exploded.

The Gallatin Mill Co., Bozeman, Mont., attached.

E. M. Spears, Rogersville, Tenn., builds a flour-mill.

Rogan & Lambertson, Santa Ana, Tex., will build a flour-mill.

W. S. Hamilton's grist-mill, Edwards, Miss., burned; loss \$3,500.

C. M. Faulkner, Paradise, Tex., wants machinery for a new grist mill.

J. R. Gentry, Gordonsville, Va., has points on a new roller flouring-mill.

S. M. Peacock's grist-mill, Davidson College, N. C., burned with other property.

T. B. Abernathy, miller, Bedford, Ind., is removing his plant to Louisville, Ky.

The Union City, Tenn., Roller Mill Co. are building a 125-barrel flouring-mill, and a 500-bushel corn-mill.

L. C. Chance, Tazewell, Tenn., has points on the \$10,000 stock company that will build a mill in that town.

S. W. Lightner, Harper's Ferry, W. Va., recently bought the Harper's Ferry Milling Co.'s flour-mill property, and the courts have set aside the sale.

The Case Mfg. Co., Columbus, O., have received the contract of A. B. Shellman, Weatherby, Mo., for the necessary rolls, flour-dressers, scalpers and other machinery for a full roller mill on the Case system.

The Case Mfg. Co., Columbus, O., have received the contract of The Farmers' Mill Co., Tunnel Hill, Ohio, for all the necessary rolls, scalpers, flour-dressers, purifiers and other machinery for a full roller mill on the Case system.

The Case Mfg. Co., Columbus, O., have received the contract of Chase & Shinn, Chase, W. Va., for a complete outfit of rolls, flour-dressers, scalpers, purifiers, centrifugal reels and other machinery necessary for a full roller mill.

Stanley & Hawkins, Alliance, O., whose mill was partly destroyed by fire, have placed an order for a full line of bolting machinery, consisting of 5 scalping-reels, 8 flour-dressers, 2 purifiers and 1 centrifugal reel, with the Case Mfg. Co., Columbus, O.

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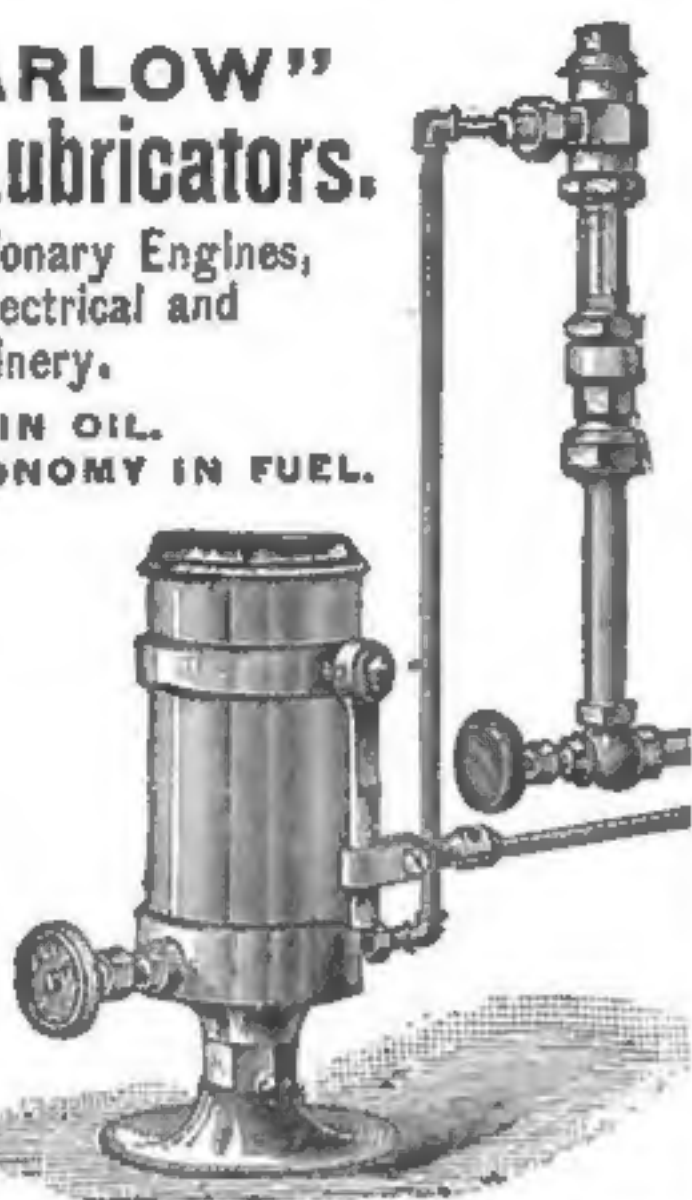
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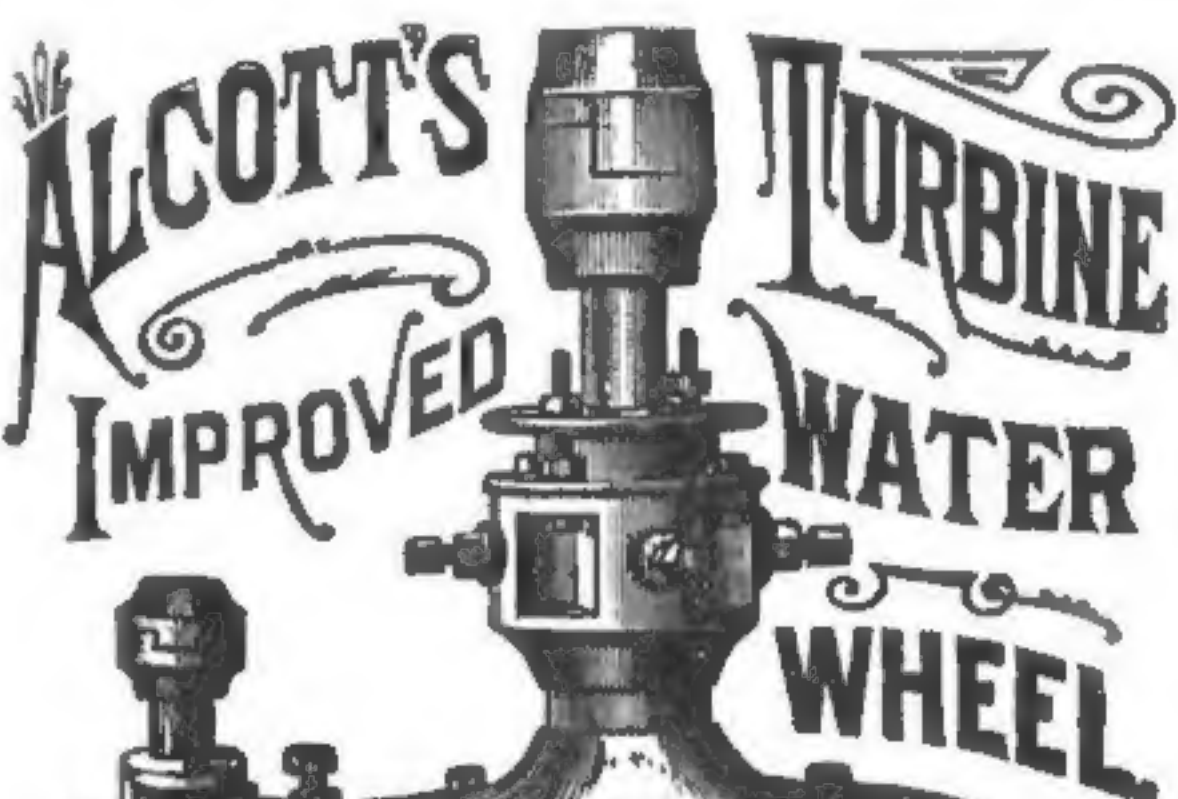
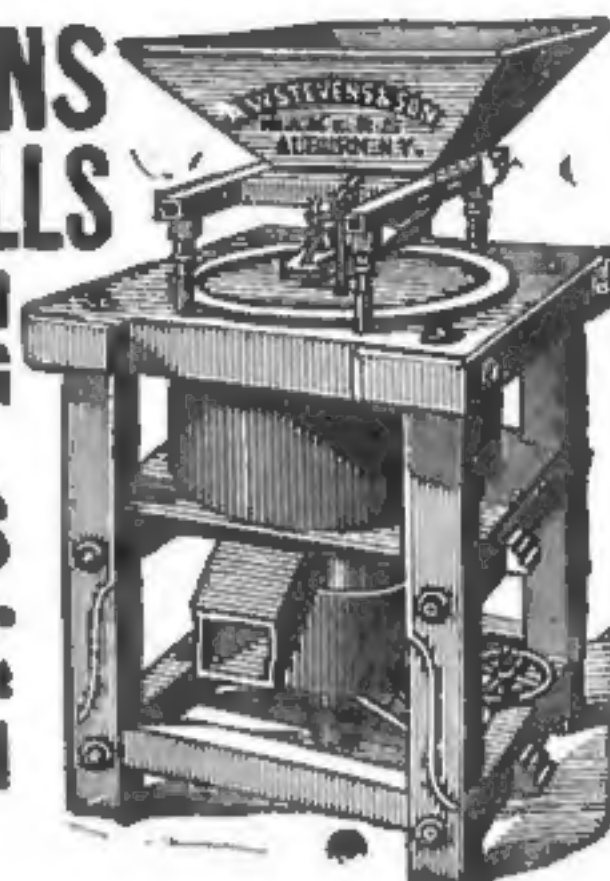
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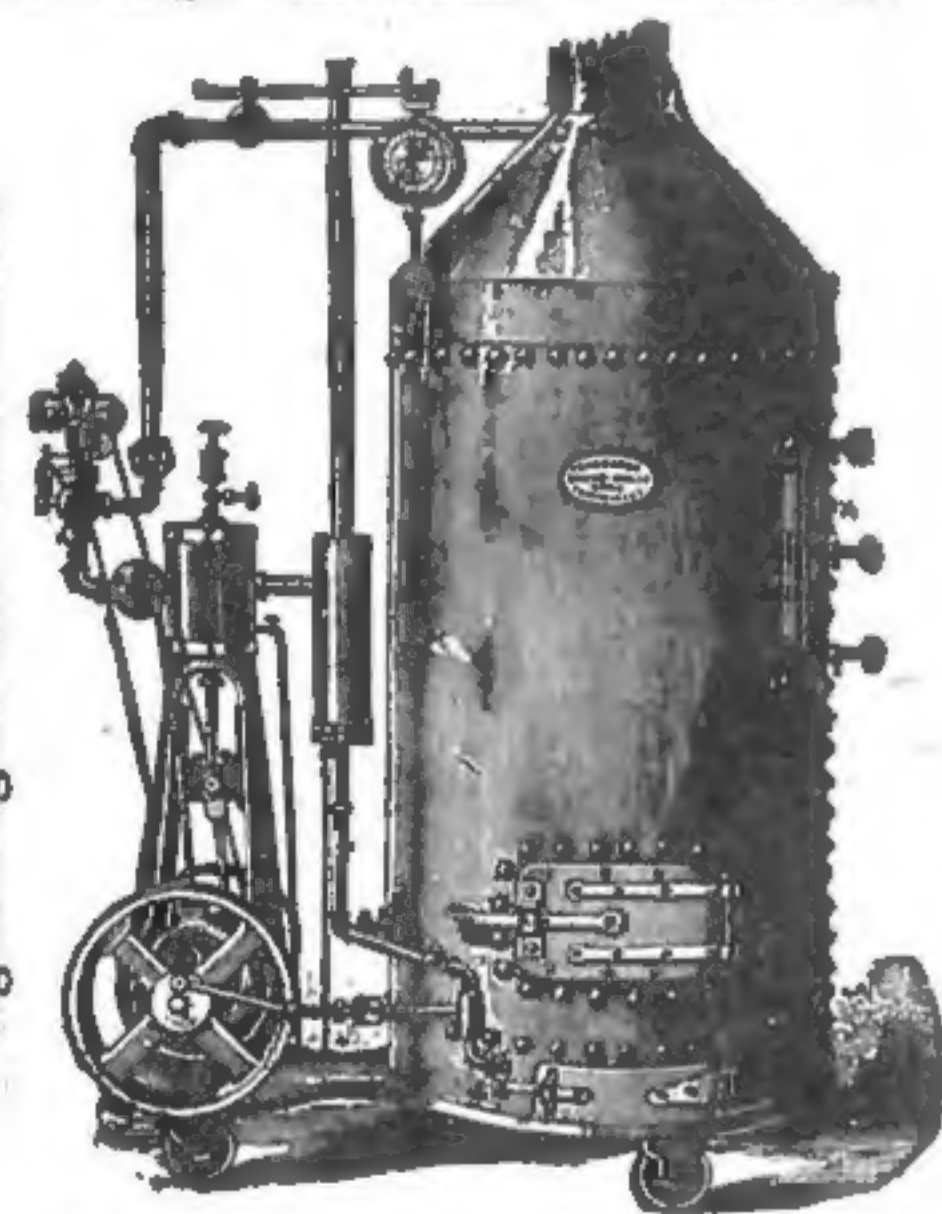
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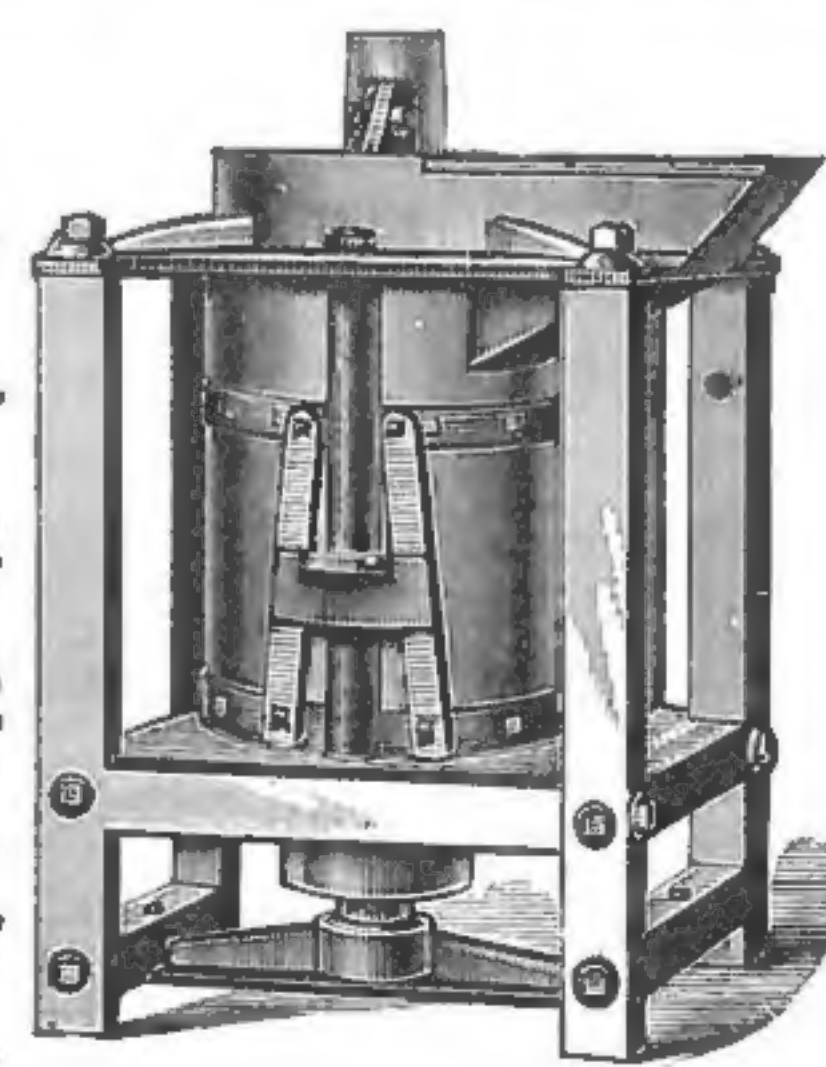
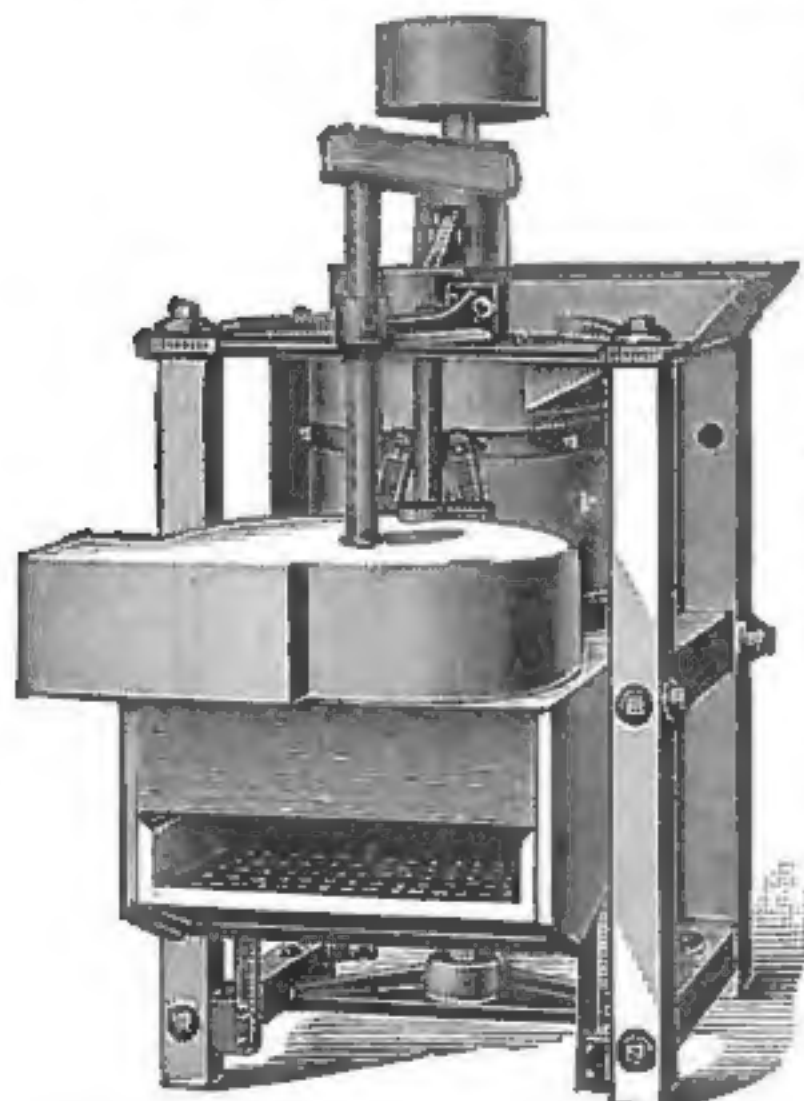
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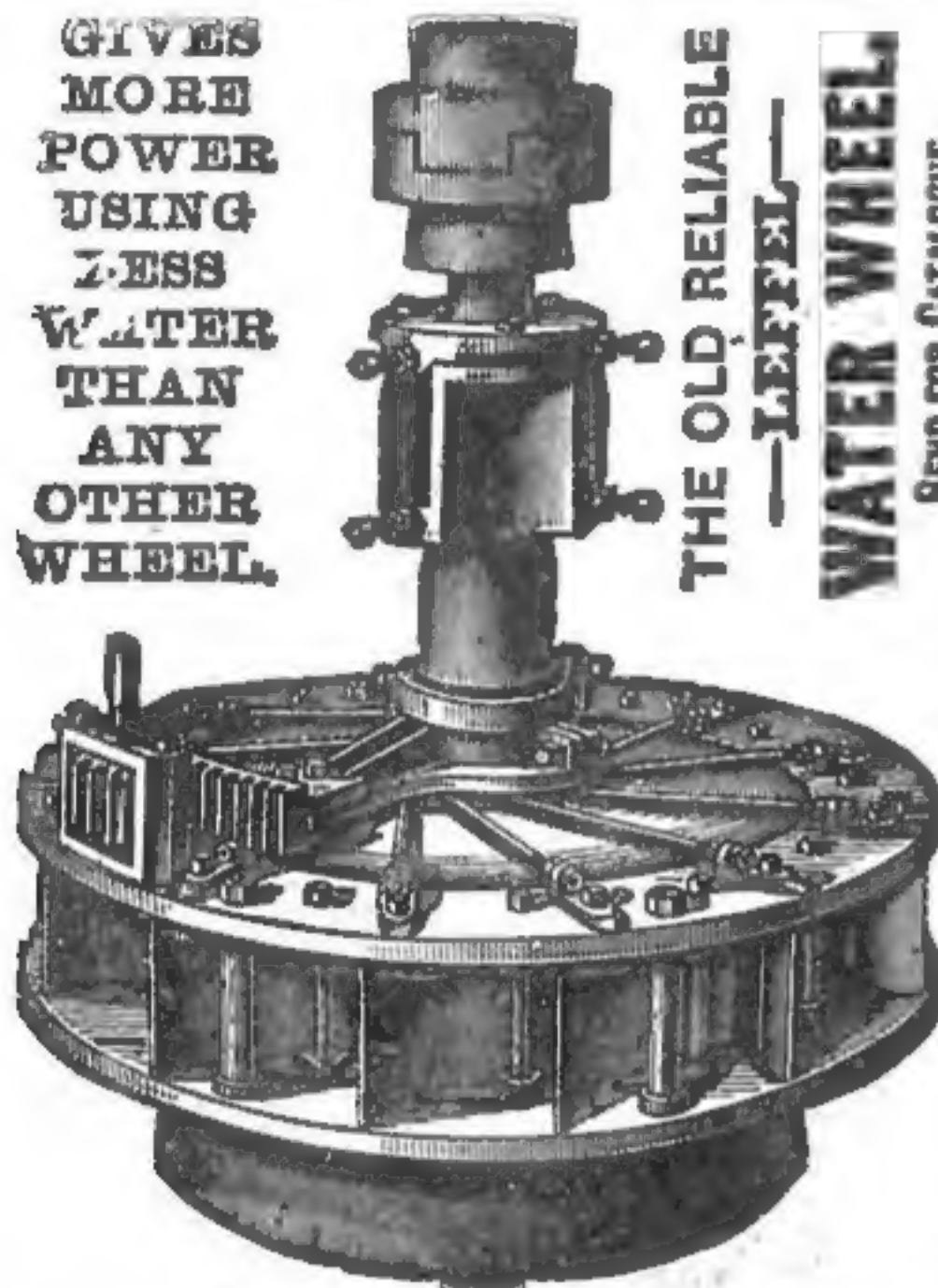
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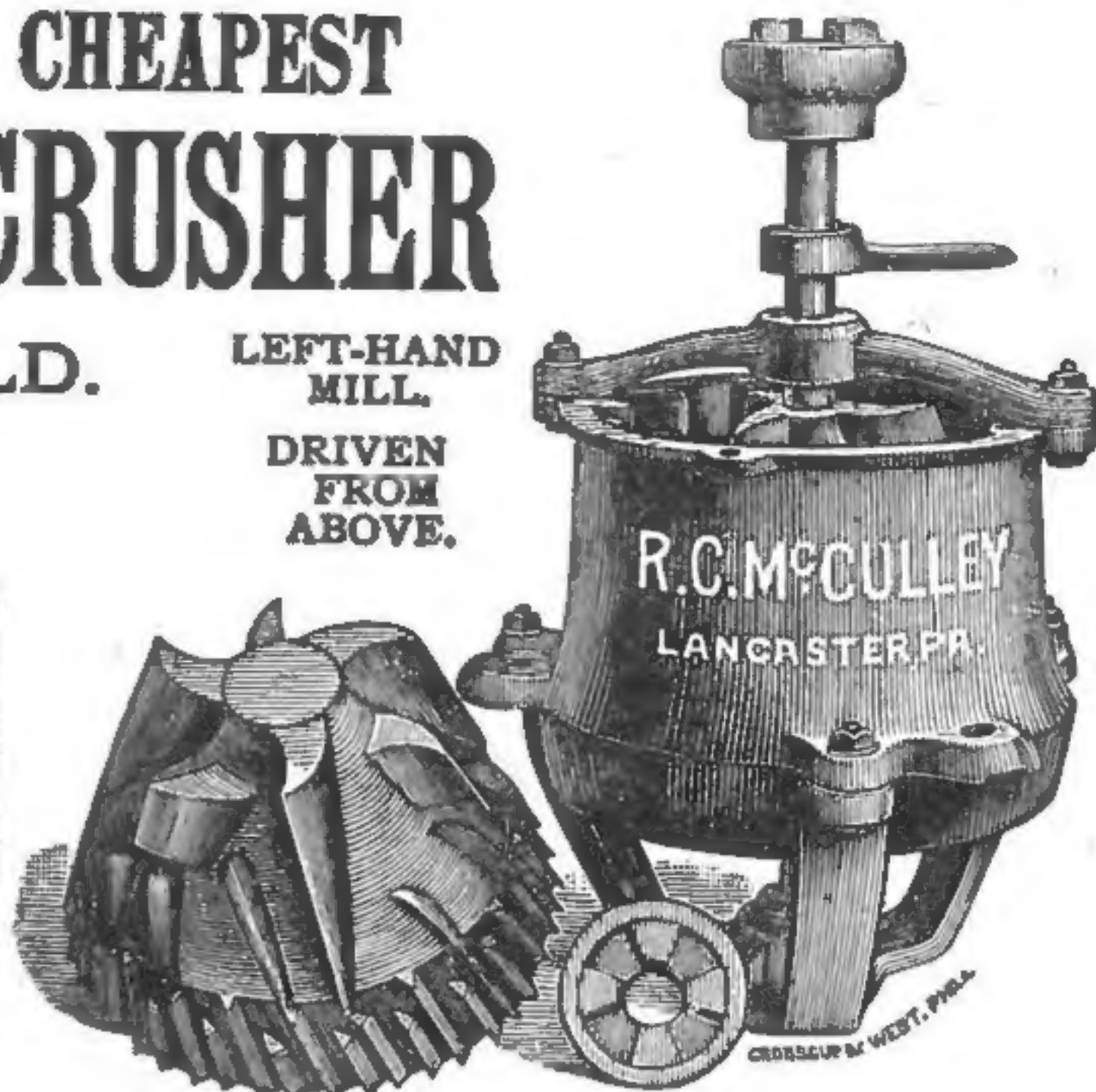
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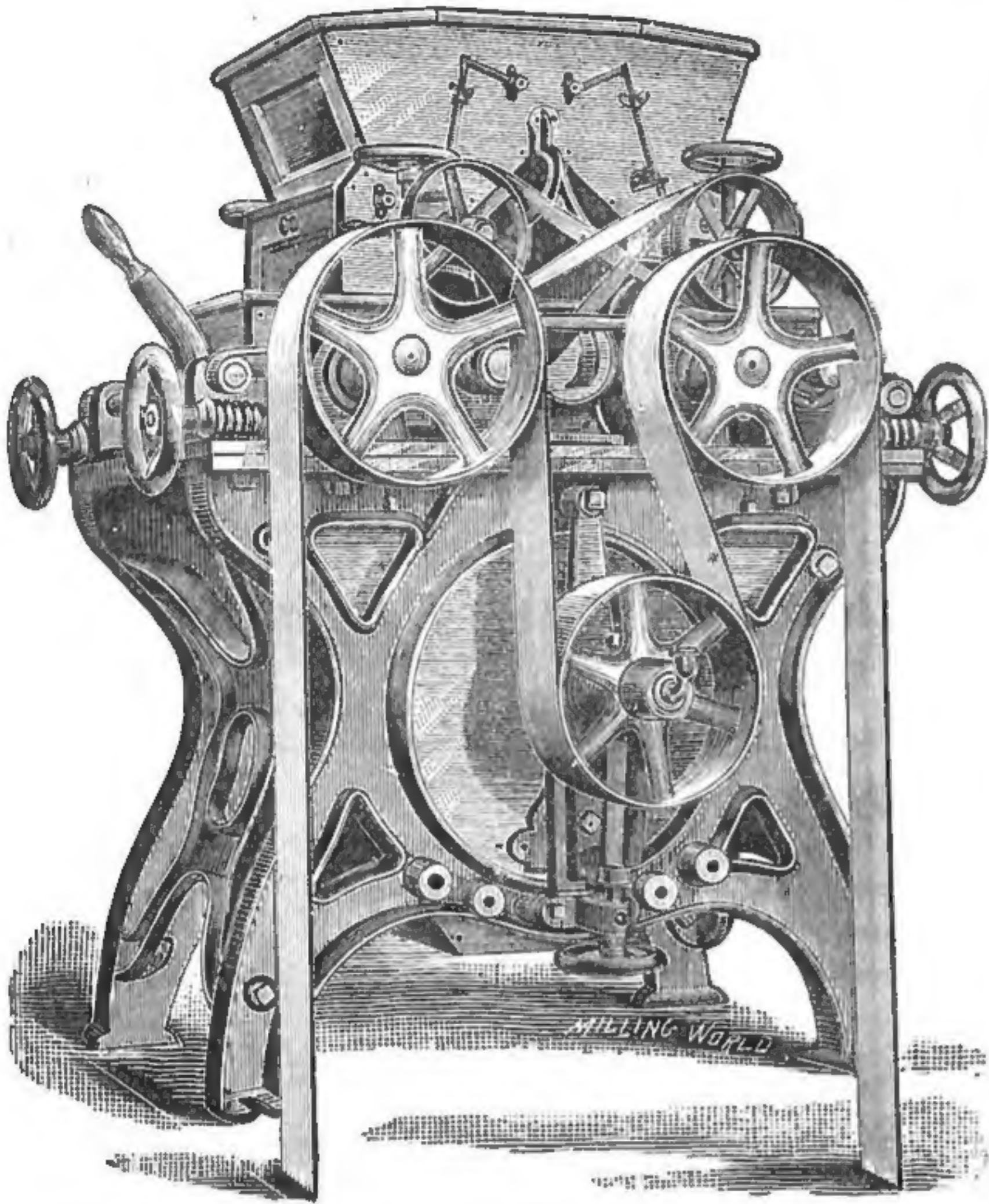
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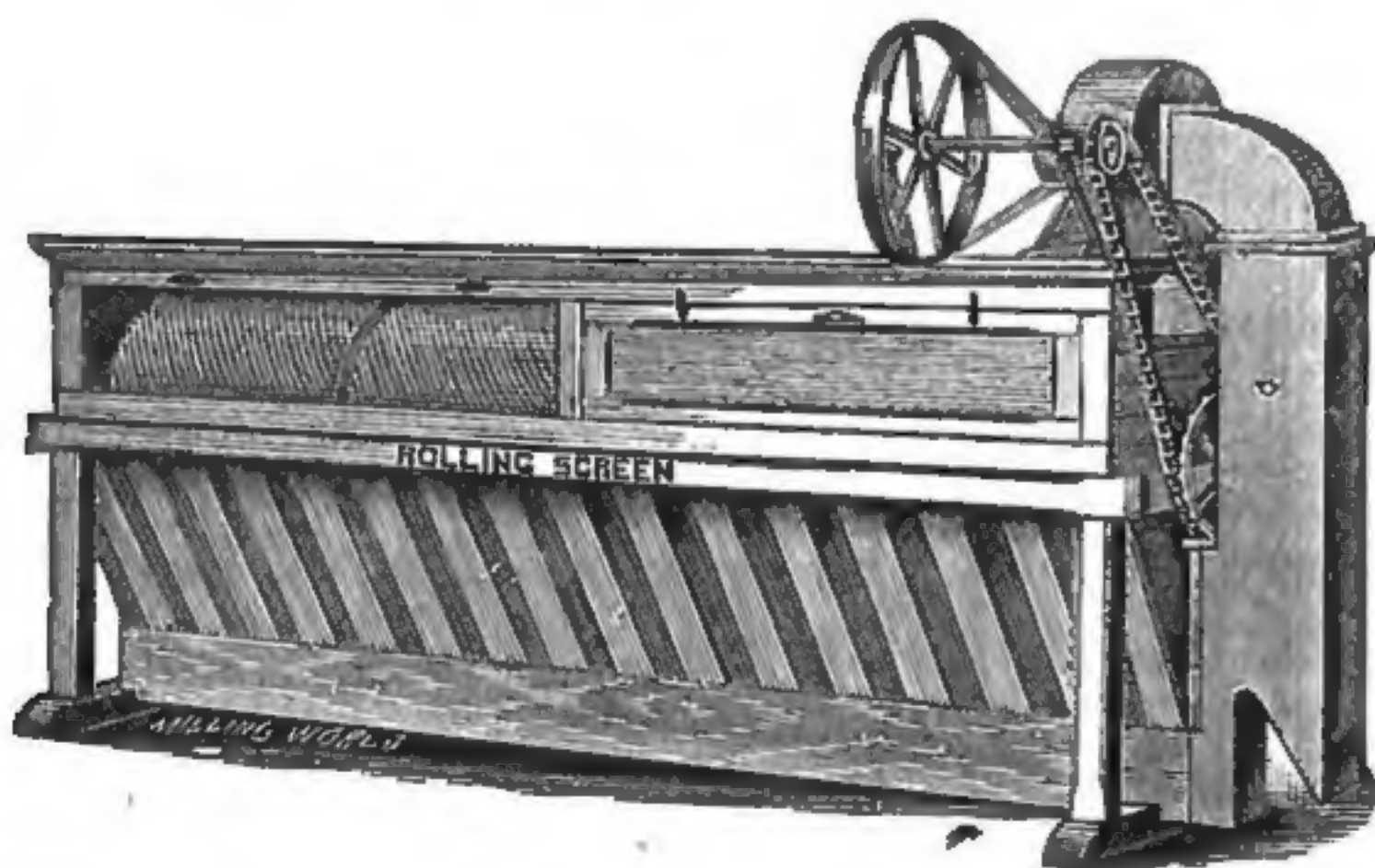
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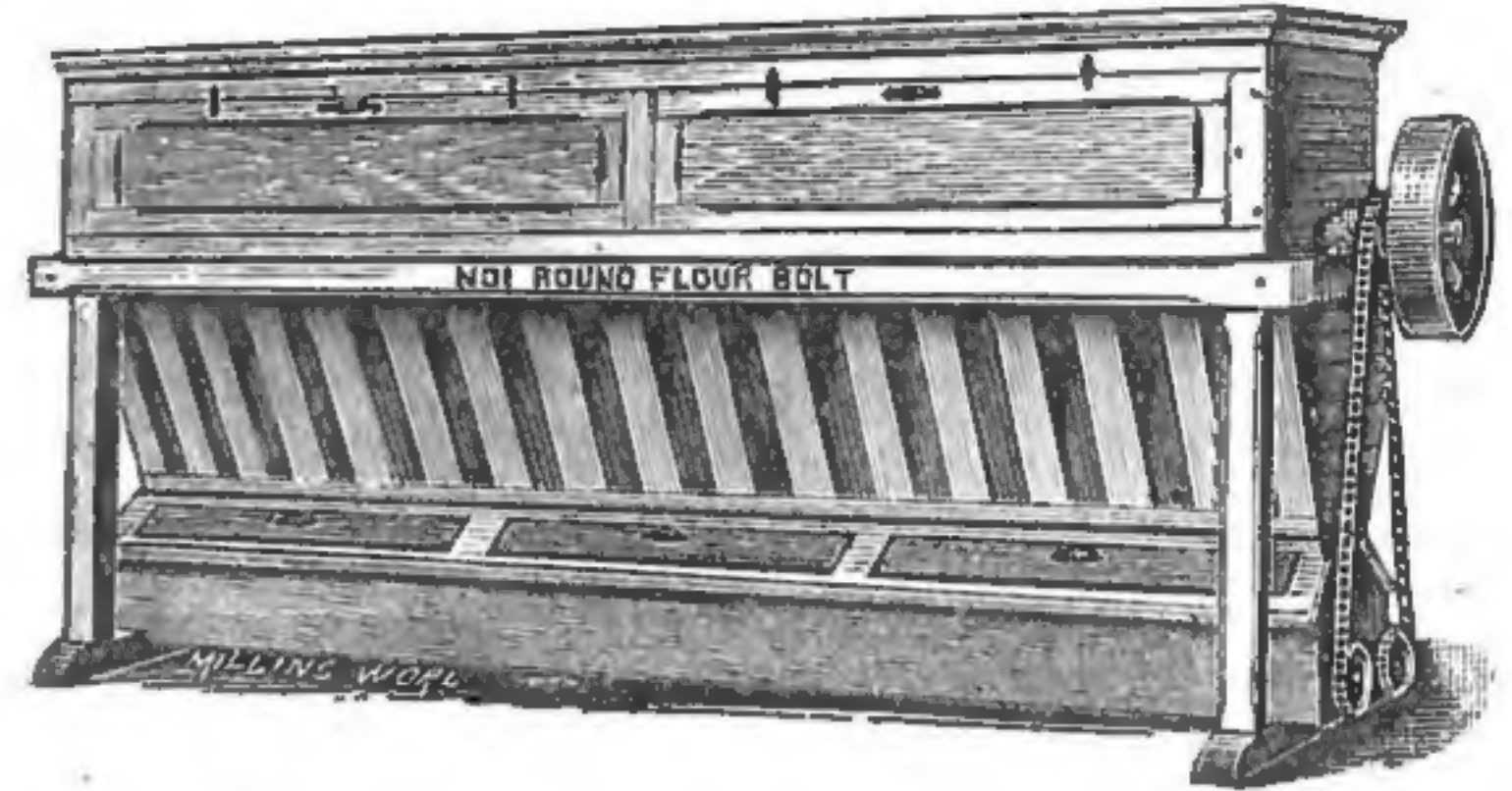
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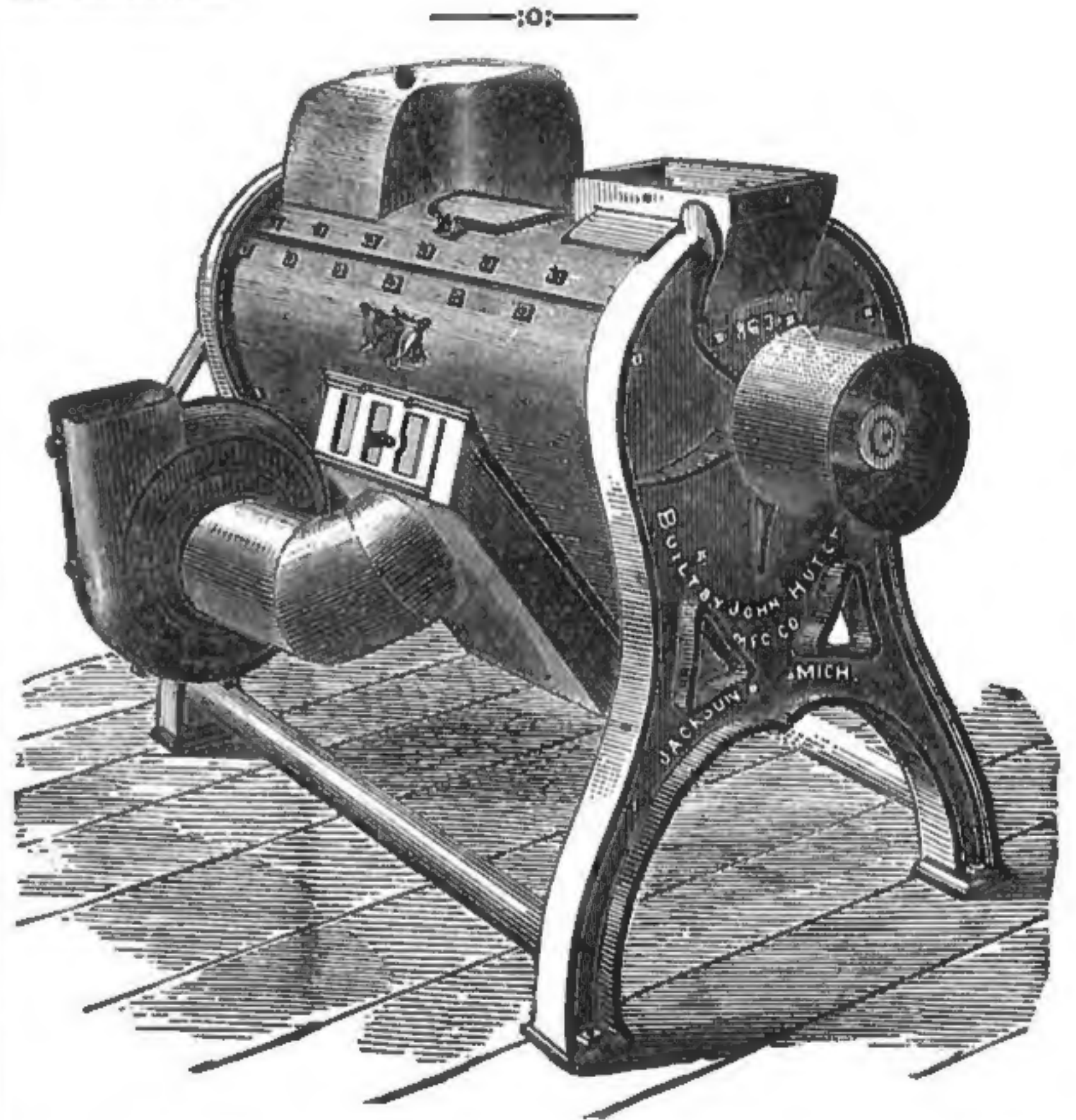


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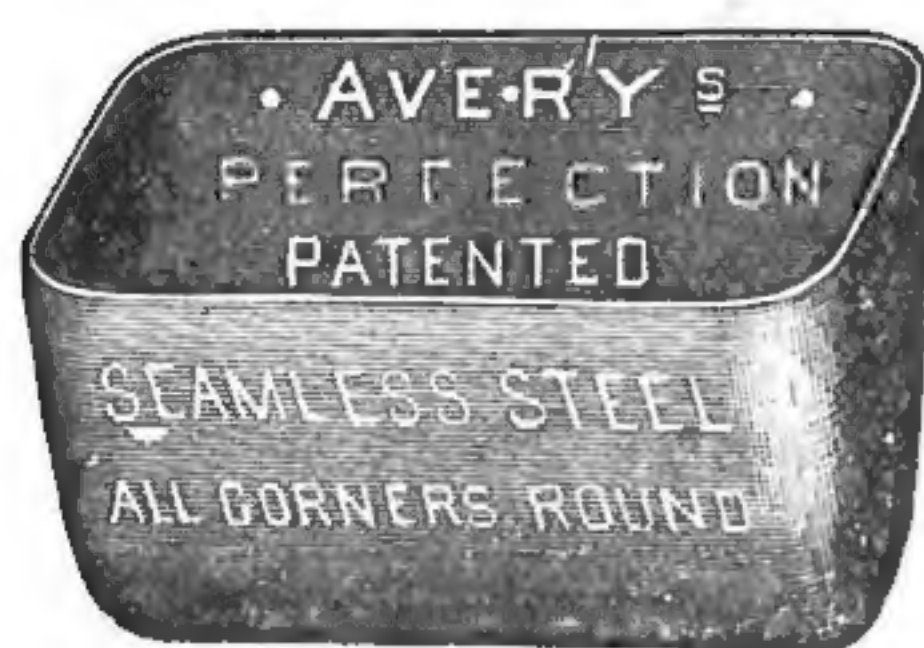


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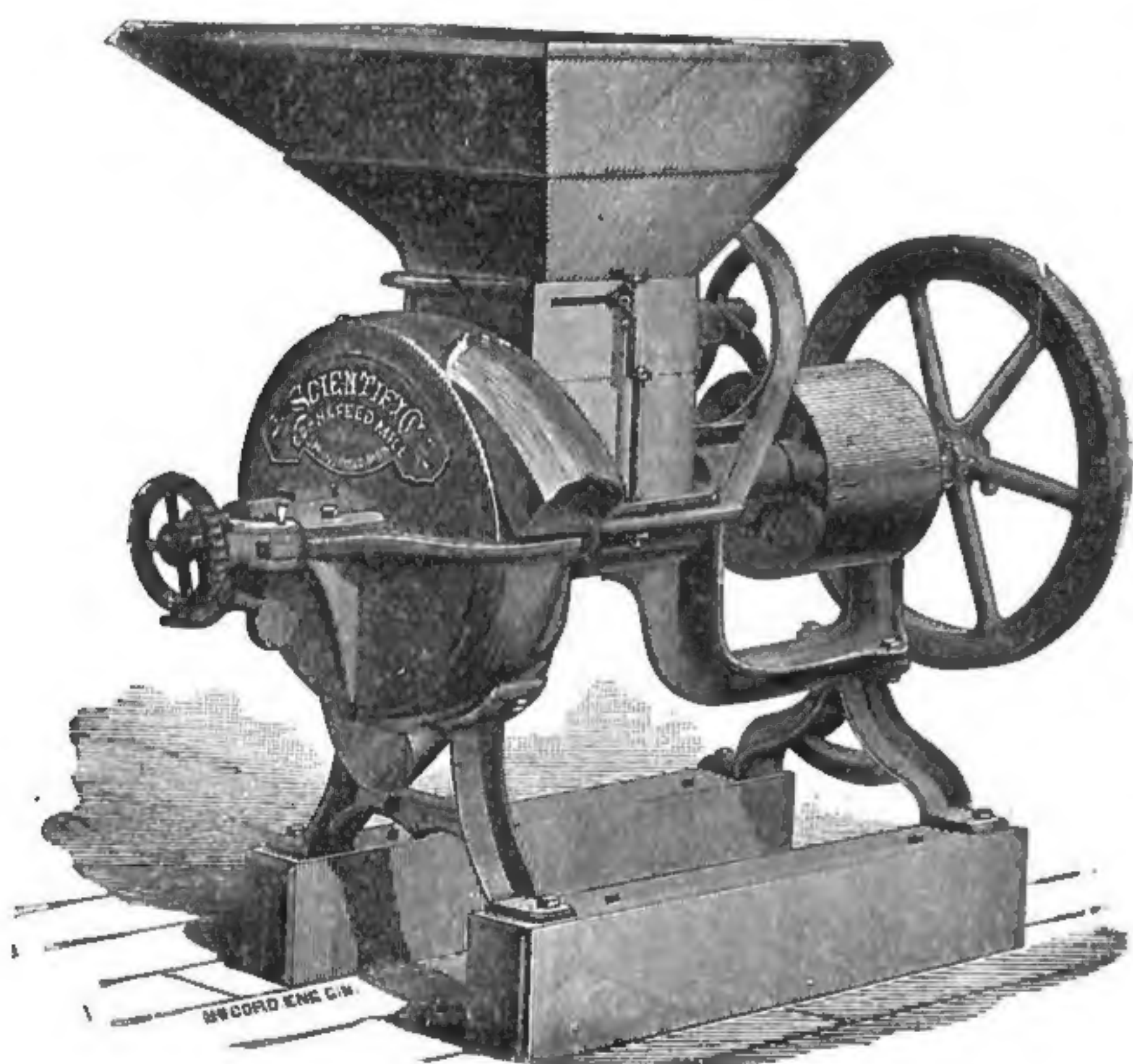
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